# AMERICAN BEE JOURNAL

1953

JULY

Volume 93, No. 7

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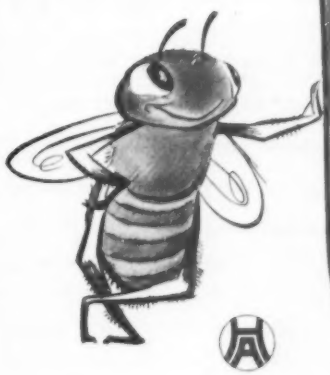

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Henry Schaefer, President of the Federation, took this picture of Mr. Turnipseed, State Apiarist of Washington (right) and G. Chester Freeman, Chief of the Food Trades Division, Production and Marketing Administration. Freeman is the one man to thank most for the wonderful honey publicity drive last October.

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**THE AMERICAN BEE JOURNAL**
HAMILTON, ILLINOIS

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**During the publicity drive, last October, many stores, with prominent displays like this, moved an unusual volume of honey. Where the cooperation of the store and the local drive for honey were well teamed the direct effect on honey sales was very noticeable.**

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## OUR COVER PICTURE

Florida's 1952-53 Honey Queen is the attractive 18-year-old Miss Bobbi Wilder, daughter of Mr. and Mrs. W. K. Wilder, Pine Castle, Florida, owners of the Orange Blossom Apiaries. She won the title at the state beekeepers convention held in Umatilla last October and graduated from Orlando Senior High in the class of '52.

Ellsworth Meineke of Arlington Heights, Illinois, writes that the little girl on our June cover is his daughter, Lucinda, who is now 16 and still fond of comb honey.


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# ALL AROUND THE BEE YARD

by G. H. Cale

A dust haze this morning. Wonder if all southeast Texas is coming up to roost? Reports from Texas tell of extremely dry conditions and plants that should be producing and now in bloom, yielding only a meager living for the bees. So dry in the southeast corner that people must move or starve. Beekeepers caught in this web may miss a season and we certainly sympathize with them.

The bee yards, now busy in a flow, are about "laid away." That is the term used for corn when cultivation stops because the corn is too high for it and the corn needs little attention. So it is with bees that have become so busy in gathering that about all they then need is room for storage. They, too, are more or less laid away. For about three months each year, mostly during April, May, and June, in this country, the beekeeper will concentrate most of his management for the entire year. If he produces comb honey his daily presence in the yards is increased during the flow, particularly in the early part of it. Too, if he raises queens and does his requeening with his own queens, he will need the early flow time for the new queens because introduction is then favorable. He may requeen in fall so the queen rearing period will come later.

As I see it, about the only difference between home reared queens and custom produced queens (southern breeder or elsewhere) is that you do have the chance at home to use only the very best of the queens you rear; and you do have some chance to select your stock to suit yourself. Otherwise, after a period of shopping around among the breeders who furnish good queens, you will finally settle on stock that suits you. For the amount of requeening you may do, you may find that the stock you get this way costs no more than what you have time to produce yourself and perhaps gives you a chance to do things that you could not do otherwise. Pay your money and take your choice.

If you could be in your bee yard every day, you might be surprised at what goes on. Likely, for example, you would be disturbed by the small swarms that come and go hanging for a time and then —poof, no more. You might see a spurt of heavy in-flight at some hive and not understand it. What you have witnessed is the behavior of small supersedure swarms; a knot of bees with a virgin out to mate. She needs company, poor thing as she has not been told about the facts of life. Then, well, let's go back home. So supersedure goes on all season. If your queens were marked you could tell when the colony has superseded because the queen would then be unmarked.

This saves a lot of requeening. To my notion, there is no plan possible for systematic requeening. The use of selected queens in testing nuclei, given to the poorer producers that obviously have unsatisfactory queens, during the honeyflow, using the entire queen nuc in requeening, is about the best sure-fire human selection for requeening there is. If your testing nucs are started early enough, the queens all determined to be just what you want, a dozen or so to each bee yard, you can do your requeening when you go to your bees, almost any time.

If you happen to have any of these queen nucs left after the season, you can put them over other colonies, above a screen, for winter, and in spring there they are for more requeening or for increase, or what you will.

Those boys who move bees long distances in plastic screen covered trucks or in screened vehicles, without screening the hives, just set the hives on and go, can do just that. I don't like it. I might have to like it if I were a professional pollinator (a pollinculturist, as Milton Stricker says); or if I had to migrate to get enough honey to make bees pay. But it is so easy to screen for the little moving I do (and there is some every year) that I prefer it. We use a deep top screen, plug all holes that may allow leaks, with tissue paper, real tight. And use a V screen of window screening for the entrance closer. We have top flight holes, so it is easy to go to the yard to be moved, in early evening, just before flight quitting, and insert the entrance screens. When flight stops, plug the flight holes with a wad of tightly inserted tissue, and you are ready. In the morning, load and move. Bees so carried will stand a lot of heat and if you remove the plugs of tissue in the flight holes carefully as you set the bees down, you have slow emergence and little drifting flight. Then unscreen and super and go home. You may get some end drift but not much.


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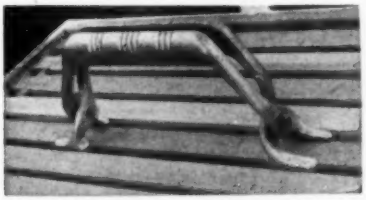

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**SELECT ITALIANS**

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|---|---|---|---|
| 1 - 24 | $3.10 | $4.00 | $4.90 |
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See our catalog for prices on quantities.

# Windy Lane Bread With Honey

Nauvoo, Illinois, is a town noted for its blue cheese and wine, but lately another fine food product has been added which also puts honey on the map. This is a stone-ground fine whole wheat floor which is used to make a tasty bread. Here is the recipe:

**Windy Lane Wonder Wheat Bread**

**2 loaves**

2⅔ cups milk
2 T honey or 4 T brown sugar
2 T margarine or butter
Warm mixture to 80 degrees and add
1 oz. bulk (moist) yeast, or 2 packages dry yeast
1 T salt
1 unbeaten egg

Measure 8 cups of sifted flour. Stir ½ the flour into the batter and stir well, then add the remainder. The dough should be very stiff, the last cup of flour being worked in with the hands. Continue to knead the dough in the pan with the hands for 10 minutes. Put the dough in covered pan with a dairy thermometer in it and keep at 80 degrees for about two hours, or until it doubles in bulk. Knead down and let rise one-half hour more.

The dough is now ready for the bread board which should be lightly greased in winter or floured in summer to prevent the dough sticking. Half the dough may be shaped into rolls or all the dough may be shaped into two loaves and placed in greased medium-sized pans. Let rise until even with the top of the pan. Pre-heat the oven to 350 degrees. Place the bread in the oven and bake for 45 minutes at 350 degrees. Remove bread from pans and let cool on a wire rack, such as one of the shelves from the oven, before storing.

Wipe pans clean—washing them gives bread tendency to stick. If you do not use an egg, increase your liquid ¼ cup. If the rolls are baked in greased muffin tins, they will bake in about 20 minutes and will be crustier.

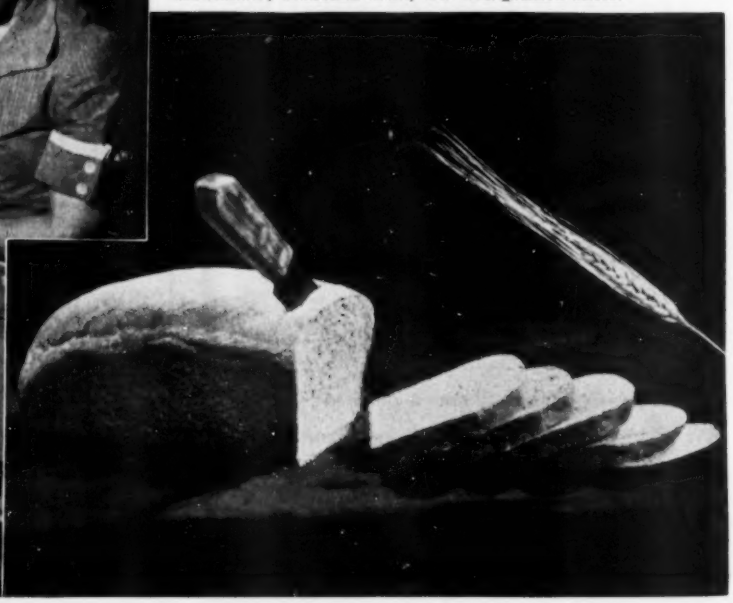
---

Here is an example of one of those businesses which grew out of a home experiment. Harold and Mildred Smith, who make and sell the bread, were only searching for a type of wheat and a means of processing it which would meet their own taste and vitamin requirements when they started making flour. But friends learned of their product and beat a path to their door to talk them out of some of it. The small mill with which they started was soon replaced by two larger ones and for a time the wheat was sold only to friends and neighbors. Now, however, the Smiths operate on a commercial basis to sell the bread which they make themselves.

It all began because Mildred noticed that the flavor of her homemade rolls varied greatly when she used different bags of the same brand of whole wheat flour. She made inquiries and learned that the baking quality of a wheat flour depended on the amount of gluten, or protein it contained. But even more important, it depended on the KIND of protein present in the wheat kernel. Large flour mills purchase their wheat on the basis of the amount of protein it contains, but they have no control over the KIND

**Mrs. Smith takes a loaf of honey wheat bread from the oven. She and an Iowa State College home economics expert wrote and tested the recipe.**

**An even-grained smooth textured loaf—note the uniformity, the smooth, unbroken crust, the even-grained slices.**



**Above: Step 1 in making Nauvoo Whole Wheat Flour is taken when the selected North Dakota wheat is taken from the 80,000 pound steel bin by the owner, Harold Smith.**

**Center: Step 2—After the wheat has been run through the mechanical cleanser (left) to sort out foreign matter, it is poured into the abrasive cleaner (right). In this electrically operated machine all dirt is polished off the wheat, it drops onto an abrasive stone which revolves against a labyrinth of stationary steel strips above it moving from the center outward, and the clean wheat drops into the bin where dirt and chaff are sifted out.**

**Above: Here is the grinding machine which looks like the abrasive cleaner. Another stone grinds the wheat into extra fine flour. Two flat carborundum stones, 14 inches in diameter and only 1/100th inch apart, grind the wheat. The upper stone is stationary and the lower stone revolves. Wheat is ground in the center and becomes finer as it moves out, finally dropping off the stone. The flour is creamy-white and is sacked in 5 and 12½ pound bags (shown on shelf). Here Mrs. Smith sacks the flour.**
(Photos courtesy Smith Studio, Fort Madison, Iowa.)

of protein present in the kernel. Wheat grown by different growers is mixed together at the elevators with varying kinds and amounts of proteins. Little wonder the flavor of the rolls varied.

After learning this, the Smiths decided to grind their own flour from the best wheat. Samples of wheat were secured from growers and ground in a 2½ pound family-sized mill. Eventually, one strain of North Dakota wheat was chosen as the most consistent producer of superbly flavored, fine textured whole wheat bread. Smith purchased a bin to set up at home and arrangements were made to buy a carload of this wheat. Milling was now a problem, but the answer was to go back to the old-fashioned type of stone grinding which reduced the entire wheat berry to flour. By chance, Smith learned of a new-type modern mill built around the principle of the stone mill with man-made grinding stones which were fast and produced any degree of fineness in the finished flour. This is the type mill now used in making their flour.

Mrs. Smith and her sister have given a number of lectures and demonstrations on baking the bread and other whole wheat products. The bread recipe was worked out by Mrs. Smith and Mrs. Mildred Nelson, of Iowa State College. Other recipes were the work of Mrs. R. C. Baxter, wife of Nauvoo's dentist.

A sideline of the Nauvoo Miller is a cracked wheat cereal which is also very good.

Honey is used in recipes for pancakes and waffles, ginger bread, nut bread, and steamed Boston brown bread. According to Mrs. Smith, the honey vastly improves the flavor and texture of all their baked goods.

Interested readers may write to Harold Smith, Nauvoo, Illinois for bread or recipes.

## National Sandwich Month . . .

Do not forget National Sandwich Month in August. In the Sandwich Success brochure for 1952 you will find several of American Honey Institute's display pieces shown.

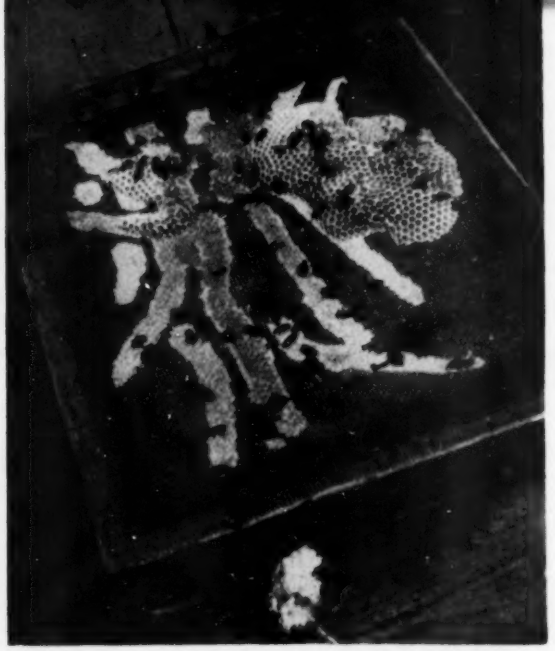
Baby Week was April 25 to May 2. To how many did you give the infant feeding formula from the American Honey Institute? The card carries the Seal of Acceptance of the Council on Foods and Nutrition of the American Medical Association.

## A Beekeeper to the Top . . .

Mount Everest has at last been conquered, British subjects reaching the top in time to have the feat announced just previous to the coronation of Queen Elizabeth in London.

The successful climbers were E. P. Hillary of New Zealand, a beekeeper of some note as well as an explorer, and a Nepalese porter, "Tiger" Ten-Sing Norkay.

A colony doing a greenhouse pollination chore.



This one filled the screen with burr comb and then built comb above the screen by entering the escape hole on the outside of the hive. It did not swarm.

# Summer and Fall Management

by Milton H. Stricker

THE pollinculturist in this area envies the honey producer who uses the let-alone system of beekeeping. How he envies the man who piles on his supers and then goes fishing, because summer to the pollinculturist is just one big headache. He must inspect for diseases of his colonies that just came out of pollination chores. He must equalize or unite all his colonies or use some system of getting them in working order and the worst part of this is that they will look good and yet be somewhat demoralized. Here is where his experience pays off and shows him what these demoralized colonies, no matter how slightly demoralized, need to get them ready for their next pollination chore, or perhaps to get them ready to harvest a crop of honey. He might even cuss a little at the uninitiated who says, "Oh, bees take care of themselves," because he knows this isn't true.

Most beekeepers supplying bees for pollination now weed out the weak, those colonies with less than average brood. This is a moot question, what is average brood? Each area, each year offers a different average and even the experienced rely on brother beekeepers who didn't supply bees for pollination, or check up on information from bee meetings in that area on what the average brood nest should look like. Sometimes the beekeeper is fortunate enough to have some colonies in his own yard that will show him what the average should be. Lately pollination orders have come so thick that only the "weak sisters" have been left in bee yards and these don't offer a true picture of what a normal colony should look like.

For the beekeeper whose bees have left either apple or blueberry pollination, there is a moving trip to an area where there is thought to be a good flow. These colonies should be allowed to gather enough natural honey and pollen to build them up for cranberry or vegetable pollination which comes in late summer. If natural stores are not available, a feed of sugar should be offered. Frames of pollen left from the previous year are wonderful things too. Though most of this overwintered pollen will be thrown away by the bees, a lot will be utilized, depending upon their needs and one frame given to each colony in need is often the difference between one colony that can be rented later on and a colony that is of no earthly use.

Next, after checking for stores, the brood picture is checked carefully. Any colony showing the scattered brood of failing queens or "baldheaded brood" is requeened. Though beekeepers are quite undecided about this unsealed pupa in a colony, most of them feel that better stock is the answer to that problem and some years it is quite a problem in New Jersey. The problem of proper queens for requeening is now being given more consideration than formerly by those beekeepers offering pollination service. Before the war, vast amounts of southern queens were bought to requeen these failing colonies. During wartime these queens were hard to get, beekeepers began to raise their own and they found even though they had approached this subject with dim views, that with a little concentration on their part, they were able to inbreed the characteristics that they wanted for their particular area and their particular chores. The most successful of the pollinculturists have now some method of rearing their own stock or obtaining

queens raised from their stock from a local queen raiser.

All the time the colonies are being inspected, a weather eye is kept peeled for bee disease, a big problem when colonies have been on pollination locations in the early spring.

If colonies are to be left solely for gathering honey and no more pollination orders are to be expected during the year, many colonies are united. Those with failing queens are simply placed underneath the brood nest of a strong colony. Two weaks are never united to make a strong, but a weak colony will bolster a strong one so that it gathers even more honey.

Occasionally summer management offers a challenge of swarming. Colonies coming back after pollination work where they have been confined to too small a hive, might show signs of swarming. These can very nicely be swapped or relocated for weak colonies which will bolster the weak and cut down the swarming potentiality of the strong. Most beekeepers in New Jersey call this the "Cale system" because he first brought it to our attention many years ago when he appeared at a bee meeting held in this state. After this confining, most beekeepers allow their bees to run in several stories without excluders. Let the brood nest expand, they explain. Maybe we might not get the most honey that way but we will have a bang-up colony for winter and it will be insurance that we will have enough colonies for our spring orders. Colonies strengthened by the Cale system are always requeened shortly after strengthening.

However, if the colonies are going to be used again for another pollination chore, they are not allowed to run in quite so many supers and perhaps not as many weak colonies are united. Colonies are requeened, however, and equalized in such a fashion that they will reach maximum pollination strength in another month. Those that are too weak can be united and moved to honey gathering areas.

As for the fall management of these colonies, when they come back from their summer pollination work, they are moved into an area where the fall flow is least likely to fail because every care must be taken of these colonies that have already offered their owner a gross income of about $15 apiece. They are inspected for disease, failing queens and all weak colonies are united with strong ones to help them harvest as much fall nectar as possible. Most summer pollination jobs will offer the colonies quantities of pollen, so this is not a problem. However, colonies may be in need of honey and dry sugar is often poured upon the escape boards to help the colony hold its own until the fall flow begins.

Colonies are checked occasionally during the fall flow. The beekeeper is anxious that they build up and gather themselves sixty pounds of surplus honey. They will need that much in this state to keep them until April first of the coming year. Beekeepers also check to see that the colony has adequate pollen, since they have found that colonies winter best if they have pollen for continued brood rearing during the winter. An ample cluster of young bees is necessary and here is where a young queen of a vigorous stock, bred for your particular area, is of A-1 importance. If you have no such queens to offer your colonies that are in need of them, it would be best to buy young queens, no matter what the pedigree. A colony headed by a young queen in the fall is much less likely to be a casualty the coming winter.

At this time during the fall, the beekeeper who is interested in pollination becomes a bit more fussy than the honey producer. He makes sure his yard has a windbreak. He gets his mouseguards on promptly. He sees that the colony has some means of upper ventilation to expel moisture in these damp Jersey winters and he tries to select a yard too that has air drainage so that the cold winter winds will settle below his hives and not amongst them. All these things aren't possible, but he tries to provide as many as he can, because he feels they are all important to wintering his bees successfully and that's what he wants, 100% wintering so he can rent all his bees for pollination the following spring.

New Jersey

**Above: Stuck in the sand!**

**Below: The bees were unloaded and placed in the shade while the truck was extricated.**

# Bees by the Ton

by Howard Foster

SINCE the day Grandpa walked home with his first swarm of bees in a bushel basket to place in his straw skep hive, the movement of bees from one place to another has demanded the ingenuity and imagination of man to cope with and overcome the various problems and hazards. The ramifications of modes of transportation and ways of movement are so numerous that for the sake of this discussion we will confine most of the remarks to the movement of package bees.

The public at large knows very little of these various problems and some of their questions are quite amusing. I recall visiting with a friend after our first trial airplane shipment to Montana. He asked seriously if the story were true of the bees having been flown by plane from California to Montana and then flown back to California. Then followed the question, for verification, did the airplane company receive more than its money's worth, for the reason that the pay load was so lightened because the bees in the cages were at times flying themselves and therefore without weight in the plane?

Until four years ago nearly all bees were shipped by express and from the Sacramento Valley area there were sufficient shipments for a special car on the train each day which carried nothing but package bees. For a time some of these shipments were made by parcel post but this has not proved to be entirely satisfactory. However, due to the increased rates, beekeepers have been forced to use other ways of transportation and mainly to build special vans and pooling orders to make maximum pay loads.

### Tons of Bees

My first experience with trucking bees was in 1938 and I will never forget the problems encountered in this trip. I had been told that the greatest hazard would be from the bees getting too hot, therefore the truck was prepared by putting tarpaulins over the top, sides and down the back, so that they could be rolled up, thus giving complete ventilation at all times. On the night of April 13, when we left the Sacramento Valley, the temperature was about 80°, but within two hours, going over Donner Summit, we encountered 10° below zero, with a 20 mile an hour wind. Even by closing all the tarps and fastening them down as securely as possible, the bees were unable to maintain sufficient heat to keep in cluster. By the time we arrived in Reno, Nevada, nearly all of the bees were lying on the bottom of the cages, motionless, and to all appearances, dead. It was then that the idea occurred to me to use the bee smoker to start the bee's body action and create enough heat to raise the temperature. With a smoker on each side of the truck, pouring smoke into the load of bees, it was only a short time until the thermometer inside the load was registering 65°.

The vans as they are built have to be able to cope with outside temperatures ranging from below zero up to 90° during the month of April and the forepart of May, and still maintain an inside temperature of at least 45°. There is always the possibility of a breakdown on the road, and unless precautions are taken before this occurs, an entire load of bees may become overheated or lost from cold. Some of the devices which we have developed for minimizing these losses are as follows: First, complete ventilation is made possible by opening the front of the van, lowering doors down the side and by opening the two doors in the back. By all openings being covered with screen the possibility of "hitchhiker" bees causing trouble on forced stops is minimized. The back doors have a sliding screen which may be pulled into place if necessary. When additional heat is needed, a smoker is lighted and placed in a cutdown 5-gallon can directly behind the sleeping com-

The van used for trucking bees. This truck must be able to cope with outside temperatures ranging from below zero up to 90°.

Our truck makes five trips to Lewistown, Montana, 2500 miles round trip, during April. There are two drivers and for their convenience there is a sleeping compartment directly behind the cab.

partment. At any time enroute when the temperature drops below 45° the smoker may be lighted and a few puffs of smoke will start the bees humming and the entire load temperature can be raised to the desired 60°.

As our truck makes five trips to Lewistown, Montana, a distance of 2500 miles round trip, during the month of April, it is necessary to have two drivers. For the convenience of these men, we have built into the van, directly behind the cab, a sleeping compartment. This may be entered through the cab, as the back window is taken out and a waterproof connecting "boot" inserted between the cab and sleeper or it may be entered through an outside door which may be opened from either inside or outside. With springs, mattress and sufficient blankets, the drivers are able to sleep very comfortably. We have found by driving four hours, then sleeping four hours, that the men can arrive at their destination without undue fatigue. The average driving time is 32 hours each way.

**Efficiency Pointers**

We have developed a special 12-inch cage for these truck shipments which has a ¾ inch end, with the top and bottom being morticed into this extra heavy end. This gives unusual strength and minimizes breakage. By having center post supports, these cages may be used indefinitely. There is also a special carrier which is made from a standard 40-inch lath. Two laths are nailed to form a V with cleats across each end and one lath down the middle which has 2-inch spacing cleats to prevent the packages from becoming too close together. Each carrier holds 5 packages. When shaking bees, the packages are placed directly from the scales in these carriers. When one carrier full of packages is placed on top of the other, the center lath rests directly over the feeder can, thus keeping it from bouncing enroute. Then, on the top of the tiers, we invert a single carrier to hold the packages securely in place. All tiers are held in place by rubber straps which are fastened at the top outside edge of the van and pulled down over each tier, being secured at the bottom with a hook and into an eye screwed into the floor of the van. This truck with a ton of live bees makes a round trip to Montana from California every four days, allowing one day for unseen eventualities.

We are looking forward to the time when plane shipments may make a similar trip in eight hours instead of the present delivery time of 36 hours by truck.

California

# Questions and Answers

**I have a large colony of bees which starts fighting and robbing whenever I open the hive. I know of no other bees close by so what could be causing this?**

**Vernon A. James, Missouri**

There are more bees in trees, hollow logs, and buildings than we realize. That is probably your trouble. There must be a swarm of bees in a tree or somewhere near your colony and whenever you open the hive they start robbing. When honey is coming in robbing is lessened until the next dearth of nectar, which would come after clover bloom in your vicinity. When robbing starts, the beekeeper should close up the hive and try it again later. It also helps to reduce the entrance with an enclosure cleat. This gives the bees a smaller entrance to guard and helps the colony to defend itself.

**How far apart can hives be set on a stand above the ground?**

**Amel Magsin, Illinois**

Around two feet or thirty inches apart would be about right. Leave enough room between them so that you can work them.

## Honey for Migraine . . .

Once Dr. D. C. Jarvis had an article in this Journal about the use of honey for relief of migraine headaches. One of those who read it was Ruth McCormack of Needham, Massachusetts. Following her trial of honey for that purpose, she wrote.

"I have tried Dr. Jarvis' advice to use honey for the relief of migraine and after several weeks' experience, I am glad to say that both my sister and I have benefited greatly from the recommendations that Dr. Jarvis gave. I wish we could say that we are completely cured. That is not strictly true.

"Migraines still occur, but with less frequency. We have found that if any symptoms appear, the use of two teaspoons of honey with meals or at bedtime greatly alleviates the headaches or actually forestalls them." They have mentioned this treatment to friends, some of whom have been definitely helped.

## Interattraction in Apis Mellifica . . .

Experiments are described in an investigation of the mechanism of cluster formation in bees. Evidence is led to show that the cause of the interattraction is a complex stimulus, partly of a vibratory nature, partly olfactory and comes from the abdomen. There must be a certain number of bees present for the stimulus to be properly received. The attraction of the workers by the queen has also been shown, probably of a chemical nature, localized in the abdomen and persisting for a time after death. Conversely, the bees never attract the queen.

J. Lecomte of France
(Reported by Dr. J. N. Tennent from International Congress, Leamington Spa)

## The Benton Queen Cage . . .

It is of interest to know that Frank Benton, about whom you have just finished a biography by his son, Ralph, visited my father and taught him much about beekeeping during his trip to the Near East, Syria, Cyprus, and Palestine in 1880-1881. Father lived with him for several months in Lebanon and both were very eager in their work. One of the Arab servants said once "How is it you talk about bees all day and at night you go on talking instead of going to bed?"

Benton invented his queen cage for the post at Beiruth. Father sent off the first queen that arrived alive in the U. S. A. to a Dr. A. H. Diven in Seneca, Pennsylvania. The queen arrived safely after twenty-three days in transit and in less than half an hour was released and on combs of emerging brood.

Nora Baldensperger, Nice, France

## Precautions for British Sprayers . . .

The Ministry of Agriculture for Great Britain in early spring issued warnings to agriculturists to take care not to jeopardize the honey bee, their best friend in pollination.

Recommendations were to apply arsenical sprays ONLY before fruit buds are open or after the petals have fallen; to prevent spray drift; never to spray while bees are in the orchard; and to cut all bloom in the neighborhood which might endanger the bees. On the other hand, beekeepers were warned not to put bees in the fields while spraying was going on, and to remove them from harm as soon as the bloom was over.

## I Don't Know, Do You? . . .

March 10, clear, cold and windy, no bees flying. Checked two early skunk cabbage locations to observe development. A few, only, were up three to four inches, others just breaking ground. The protective sheath of several of the largest had been eaten away near the top so that insects as large as honey bees could enter the cavity around the pistil and stamens.

I broke the sheath open on these injured plants and found plenty of ripe pollen. The stamens had not started to develop on the uninjured plants, of the same size. (1) Did honey bees cut the holes in the sheaths? (2) Did the injury cause those plants to come into blossom earlier than those not injured? (3) Were the injured plants normally earlier than the others and the bees being able to detect this, opened them for the pollen, being unwilling to wait for a regular blooming of the flower? I don't know, do you?

Roscoe Johnson, Mass.

## Pigs and Honey . . .

The evidence now appears that it would be a decided advantage if we beekeepers kept a bunch of pigs around. Dean Wolf, Iowa Experiment Station, says: "Sugar coated pellets packed with vitamins, antibiotics and trace minerals can help your pigs off to a fast start. Pigs have a sweet tooth and they will eat these highly palatable starters sooner and in larger amounts than other types of solid food."

Here is a new idea. One would gather that the little rascals would just get in and put three curls in their tails at no time at all. Who is there among us that has never come up often with a lot of stuff that should not appear as honey on the store shelves? Here is a good place to chuck it. And as long as the price of pork is near that of honey what difference does it make whether the pig that eats it has two legs or four?

Merchants pyramid their earnings by laying stress on items that turn over quickly. Honey at best is a slow mover and when we sell something that the consumer won't buy, it is a loss. The kind of honey a man sells becomes his trade-mark. If it is high grade honey, his sales will grow. If it is low grade, he must travel many miles and make a nuisance of himself.

Believe me, I am for Dean Wolf and his pigs.

L. F. Childers, Missouri

## Look Out for that Stapler . . .

A note of warning about the suggestion on page 55 of the February issue concerning the use of the stapling machine to fasten wrapping paper around hives for winter. All those pesky little staples that go in so easily have to be removed in spring or they are a menace to the hands. It takes a lot longer to pull them out than to pull off a nailed cleat. I tried it years ago and now I leave the stapler at home.

Too, I think the nailed cleat does a better job of holding the paper wrap on firmly without letting it tear. I use a 16 inch cleat, prepared with two one-inch nails, one for each hive body, at the back of the hive where the paper laps vertically. In the spring, the cleats are gathered up and the nails driven back ready for using again.

Henry J. Down, Ontario

July

# SPOTLIGHT

**Beeswax**

# The Importance of Beeswax

by Roy A. Grout

IT CAN be truly said that beeswax was first called to man's attention by the buzzing of honey bees. Until recent centuries, man's chief sweet was honey, and beeswax was obtained along with it when the comb was crushed. In early days, there were no other known waxes or wax-like substances except the softer tallow, so man devised many uses for beeswax and its relative importance to him was greater than it is today.

Beeswax is the old man of the wax kingdom. It has only been in the last few hundred years that other natural waxes have become of commercial importance. The numerous synthetic waxes have only come into commercial importance in the last few decades. Even today, in the pharmaceutical trade the word "wax" still refers specifically to beeswax. If we turn to the dictionary, the first definition of "wax" reads:

> "A substance secreted by bees by special glands on the underside of the abdomen, and used by them, after mastication and mixture with the secretion of the salivary glands, for constructing the honeycomb; called specifically beeswax."

The second definition is that "wax" is any of various substances which resemble beeswax. Wax, indeed, was man's first plastic!

The production of beeswax is secondary to the production of honey, and often beeswax is referred to as the by-product of honey production. Thus, methods of producing, collecting and caring for beeswax must be coordinated with the production of honey and beneficial to the life of the honey-bee colony.

In recent years, United States beekeepers have produced from 4 to 4½ million pounds of beeswax each year, according to the Bureau of Agricultural Economics. Beeswax imported from abroad has somewhat exceeded our own production each year. This beeswax principally comes from Brazil, Cuba, Chile, Egypt, the Dominican Republic, Central America and Africa. Industries in this country therefore consume more than twice the beeswax which we ourselves produce.

In addition to the need for imports to supply our industrial demand, another principal reason for this importation is that most of these grades of beeswax will bleach readily either by chemical means or when exposed to the rays of the sun. It also can be stated that the wax-bleaching industry and the candle-making industry, who use large quantities of beeswax, developed at a time in this country's history when American beekeeping was more or less in its infancy. Thus, these concerns located near the Atlantic seacoast where they could obtain substantial quantities of beeswax from abroad.

In all probability, the largest consumer of beeswax is the cosmetic and pharmaceutical industry which uses it primarily in the bleached form. In the last thirty years, the production of cosmetics has increased tremendously. It is very probable that this industry has done much to maintain the total consumption of beeswax while others were discarding it in favor of less expensive substitutes. All typical cold creams contain from 8 to 15 per cent beeswax which is the material responsible for that white, pearly emulsion so familiar to women generally. Lipsticks, pomades, eyebrow pencils, rouge, deodorant sticks, ointments, salves, cerates and many other cosmetics and pharmaceuticals contain beeswax in many of their formulas.

It is likely that the second largest use for beeswax is the production of church candles which also principally uses it in bleached form. These candles are used mainly by the Catholic Church which requires that the candles burned on the altar during Mass and the Benediction of the Blessed Sacrament be of greater part beeswax. The liturgical use of beeswax candles on the altar continues today but springs from the very early days of the Church when beeswax was selected as one of the purest sources for furnishing light in their rituals.

The third largest use for beeswax is one familiar to beekeepers—the production of bee comb foundation. In a way, this is the most important use for beeswax inasmuch as the bees add more beeswax to the foundation in their comb-building process, and these combs become the source of future supplies of beeswax. Strangely enough, this use for beeswax is the only one in which it is not consumed or lost but returns again to market.

There are many, many uses for beeswax other than the three just mentioned. They range from protective coatings and polishes to thread wax, grafting wax, ski wax, and many others. But space does not permit telling this story.

The purpose of this short article seems to be to remind beekeepers everywhere that beeswax has its romance just as honey does; to tell something of the ways that this so-called by-product of the hive is used; and in so doing, to give a better appreciation of this product which we annually produce. Produce it, save it, and protect it from ravages of the wax moth; for it is not only a source of additional revenue to you but of considerable importance to industry.

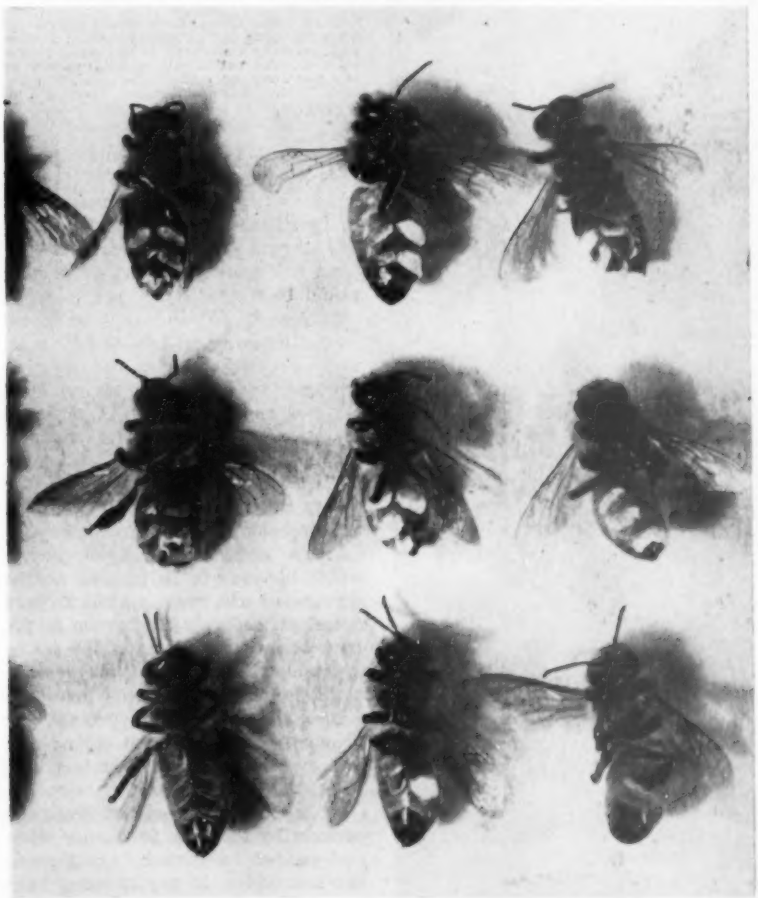
# Secretion and Coloration of Beeswax

by W. L. Coggshall

IN ancient times it was believed that wax was derived from flowers and the gums of trees, and carried to the hive on the legs of the bees. Not until nearly two thousand years later was it recorded that wax did not come from pollen, but was carried by bees in the form of tiny scales which were chewed and molded into comb. In 1792 beeswax was first described as an oily secretion, and the following year Huber showed that bees produced it when fed honey. Detailed studies of the wax glands were not undertaken until about fifty years ago, but have continued at intervals since then.

The four pairs of wax glands are located in the lower portion of the last four visible segments of the abdomen, two glands occurring in the front half of each of these segments. The single layer of cells which constitutes each gland seems to accumulate a quantity of liquid during a period of production. Then follows a period of secretion with the liquid diffusing through the wax plate and solidifying as beeswax on its outside surface. Each wax scale is molded by the wax plate on which it accumulates, and corresponds to it in form. The scale is protected and hidden by the overlapping edge of the next preceding segment. If the bee extends its abdomen or if the scales are very thick they may be seen projecting from the so-called "wax pockets."

**Bees with wax scales projecting from the wax pockets. Most of these scales are unusually thick. The bee in the lower left corner has scales of normal thickness.**

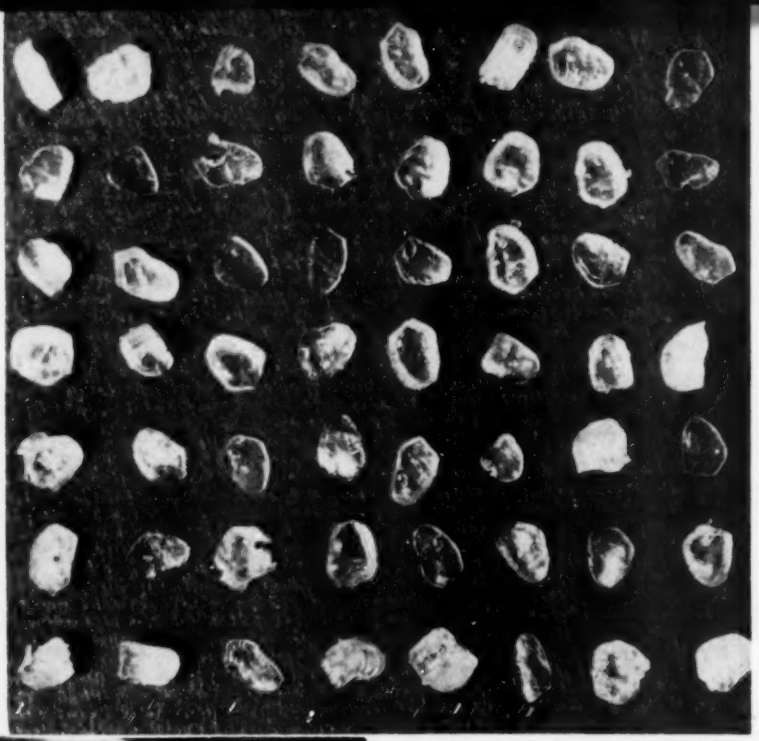


If scales are removed by the bees immediately following a single secretory period they are very thin. During a number of such periods, however, they gradually thicken. Under magnification, such scales show that they are built up of a series of fused layers which can sometimes be separated.

Just how the glands are able to produce this liquid, cause it to diffuse through the wax plates, then solidify immediately to what we know as beeswax, is unknown. Beeswax is a complicated mixture consisting mainly of esters (compounds resulting from reactions between acids and alcohols), plus acids and a small quantity of alcohols in the free state. It is difficult to imagine honey bees having such chemical powers, but it is possible for them to produce wax for long periods of time when fed only on sugar sirup. Possibly they assist themselves during this process by raising the temperature of the cluster to a reported 97°F. Accurate measurements of temperature within the building cluster do not appear to have been made, and it is possible that this varies considerably.

Some twenty-five years ago during a study of the division of labor in the honey-bee colony, it was found that the wax glands increase in size gradually, and that they probably reach the height of their secretory power in bees between the ages of twelve and eighteen days. Bees can produce wax at a very early age. I have found those less than four days of age with scales, and another investigator reports scales from bees only two or three days old. Old bees appear to secrete wax with some difficulty. Yet a cluster of bees not less than thirty-three days of age required only forty-eight hours to start new combs, and continued to add wax for some time.

Just how efficient bees are in turning honey or sugar sirup into beeswax has not been determined with complete accuracy because of difficulty in controlling all conditions. The most accurate work so



A series of wax scales showing differences in size and thickness, as well as the layer-like composition. A pound of wax requires approximately 800,000 scales.

Left: Photomicrograph of a portion of a scale showing pollen grains on the surface and partially imbedded in the wax. Yellow oil from the pollen has been absorbed by the surrounding wax. (Photographs courtesy Photo Science Service, Cornell University.

far recorded shows a range among four colonies of from 6.66 to 8.80 pounds of honey fed for each pound of wax produced. It is evident from this experiment that feeding honey back to colonies for wax production would be unprofitable.

Entirely pure beeswax is unknown to the beeswax trade since it is always contaminated in one way or another, in fact often before even the beekeeper sees it. As beeswax appears on the surface of the wax plates it is pearly white or nearly transparent depending upon the scale thickness. Scales examined microscopically are often found containing engulfed foreign matter which happens to be present on the surface of the wax plates. I have found pollen grains imbedded in the wax, or on the surface of the scales as though left there by a passing pollen-laden bee. In some instances yellow oil from pollen grains was gradually being acquired by the wax with which it was in contact. All pollens do not add color to wax.

Wax scales are removed from the pockets by the bees producing them and passed forward by the legs to the mandibles. If the chewing bees

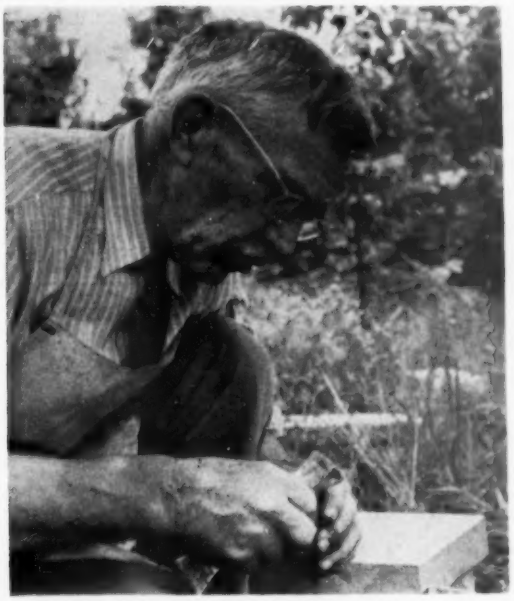
have been feeding on certain pollens their mandibles are stained with colored oil, and this is added to the wax quite by accident. I have found examples of this, as well as color diffusing from cells of stored pollen into adjacent white cell walls. Similarly it has been observed that during cell construction some bees may be adding yellow wax and others white wax to the comb.

Another important source of color contamination of beeswax is propolis. It is variable in composition because of its origin and use, and like pollen, does not always color wax. Some constituents of propolis are insoluble in wax and separate readily, while others dissolve completely. Various colored drops of propolis are often seen in the pollen baskets of bees, but these become mixed with various foreign materials in the hive. It has been observed that propolis is used to coat the surface of cappings, and that cappings which appear to be white yield yellow wax when rendered. At least six different pigments have been found in propolis, at least four of these in beeswax, but not all of them have been identified.

Old combs yield wax darker than that from cappings, but this is partly due to the usual method of rendering. Old combs generally have considerable foreign material in them, including cocoons and dried fecal matter containing color from pollen eaten by the larvae. Such old combs, when rendered carefully in glass containers, yield wax of a deep orange color compared with the light yellow of cappings wax. The very dark or blackish colors associated with wax from old combs are due to a colored compound resulting from a reaction between beeswax acid and iron rendering equipment. Some additional darkening during rendering results from the effect of heat on some constituents of propolis. The iron compound stain of beeswax hides the characteristic color, and if the stain is removed, considerably lighter wax will result.

The production and secretion of wax by bees is an interesting, unsolved riddle. That its characteristic yellow or orange color is strictly a contamination is noteworthy. Skilled chemists have been unable to duplicate beeswax just as they have failed to manufacture honey. It is doubtful if they will succeed in the immediate future.

New York



# Save Beeswax

by Elmer G. Carr

PRESENT beekeeping conditions being what they are, one must use to the fullest every practice which will help to increase the revenue.

Perhaps a lesson can be learned from meat packers who, it is said, do not let any of the pig get away except the squeal. One sometimes wonders if even that isn't captured on the radio.

No one other than the bee inspector has the opportunity to see the immense loss suffered through the lack of attention to the bits of wax, scrapings, and old combs uncared for. These small bits may seem unimportant but, if saved, in the aggregate they amount to considerable.

Small bits and pieces of comb can be salvaged by the use of the solor wax extractor. Pieces of old comb with cocoons will not give up all their wax in the sun extractor but the residue can be accumulated until there is enough economically to be sent to a reliable wax rendering plant.

The residue from the sun extractor seldom is attacked by the wax moth.

Some beekeepers, when scraping tops of frames, etc., stick the bits of wax to the smoker temporarily. One remarked, when this was noticed, "You'd be surprised the amount accumulated in a season by doing this."

Another "save the wax" measure which it is hoped will soon be adopted, is to make the brood frame top bar five-eighths of an inch thick, perfectly plain on the bottom side. By placing the top holes in the end bars so the top wire is one-quarter inch below the top bar, there is no need for any arrangement for fastening the foundation to the top bar since the bees start at the top and fasten foundation without any help from the beekeeper. This arrangement not only makes unnecessary an immense amount of work in fas-

(Please turn to next page)

tening foundation to the top bar, but it also gives one more row of cells to each comb. A small matter? Yes, but figure the number of sheets of foundation used a year and multiply this by the nearly one-quarter inch of foundation put in a slot at the top, which serves no useful purpose and it will be seen that an immense amount of wax is being wasted by being tucked away in a slot. This arrangement evidently is a "hang-over" from the days when good foundation was not readily obtainable and a narrow strip was used for what was considered economy's sake, and the slot and wedge were used to hold it in place.

Another source of wax salvage is by having one or two extra inner covers and placing a removed inner on top of a hive in the sun, with the bottom side up, and removing the softened wax. Perhaps not everyone has this accumulation of wax on the inner cover. However, one beekeeper was able to salvage nearly a pound of material while working a forty colony yard. It takes time? Sure does. But it is time profitably spent and the frames are easier to handle next time.

Notwithstanding the numerous devices invented and manufactured by beekeepers for home rendering old combs, etc., practically none is adequately efficient. Evidence of this is one case where the beekeeper believed he had done a pretty good job of rendering and was about to burn the slumgum while another beekeeper believed there was still a profitable amount of wax in it. The second beekeeper was given the slumgum. He sent it to a reputable wax rendering concern and from two hundred pounds of refuse received forty pounds of wax. And that was after the first beekeeper believed he had recovered all the wax it was profitable to get from it.

Many a beekeeper has narrowly missed losing his house by fire when rendering wax. It certainly is a tricky mess and boils over when least expected.

Even though transportation costs are high, no beekeeper can afford to do his own rendering but will find it profitable to ship the material. Old combs are bulky and are not too easily reduced in bulk but they can be reduced materially.

Secure from the grocery a number of cartons, stout ones, and make a bottomless box of such size that the carton will fit in it. Then place the old combs, either chopped up with a spade or in whole pieces, a few at a time in the box and tamp down firmly with a post. When the carton is full, slip it out of the box, fold in the top and fasten with stout cord or wire.

There are several comb rendering outfits, some more efficient than others. Make sure to select an efficient one. One which I have been using for a number of years has been able to get from one hundred pounds of average old combs, about forty pounds of wax. This is far better than the average beekeeper can do and he is saved a mighty unpleasant task; saved from possibility of a fire, also he gets enough more wax from the refuse to pay the freight and rendering charges.

Many of the smaller beekeepers have so little an amount of refuse that shipping costs would make single shipments unprofitable. This handicap can be overcome by combining the small lots in one shipment with an identifying mark in each package or by weighing each individual's refuse and prorating the costs.

It is uneconomical to ship by freight less than one hundred pounds, since the freight charges for less than one hundred pounds are as great as for the hundred pounds. Obviously shipping by express is too costly to be considered.

New Jersey

# Handling the Cappings from Honeycombs

by G. F. Townsend and A. Adie

**Department of Apiculture**
**Ontario Agricultural College**

CAPPINGS are obtained when the waxen surface is removed from honeycombs prior to extracting the honey. Where eight or nine frames are used in a 10-frame super, the combs are often drawn out far beyond the wooden frame. It is the usual practice to uncap down to the wood on the frame, with the result that as much as 25 per cent of the honey crop may be included in the cappings. Considerable care must be taken in recovering this honey from the cappings in order to avoid injury to all or part of the crop.

Heat is usually required to completely separate the cappings from the honey. If the temperature is allowed to rise above the melting point of the wax (145° F.) a burnt flavor will be imparted to the honey and its color will be darkened. In addition to this injury, small globules of wax will be incorporated in the honey. These globules are almost impossible to remove, and such honey is unsuitable for bottling. Honey overheated in this manner has its market value greatly reduced and should never be mixed with good honey.

### One-Step Handling

**Brand Melter**—The Brand melter (Fig. 1) is the only satisfactory method by which honeycomb cappings can be handled in one operation. The combs are uncapped directly into a hopper which feeds them through into the main body of the tank. Steam heat is supplied through a grid of copper pipes near the top of the tank. The lower part of the tank is jacketed and is usually heated by steam which overflows from the copper grid. As the cappings material is warmed, the honey and cappings separate and the cappings float to the top. The floating layer will rise, as uncapping proceeds, until it comes in contact with the copper tubes, when it will begin to melt. Under proper operating conditions the honey and the hot

Left panel:

Fig. 1—Brand Melter.

Fig. 2—Interior of Drain Box.

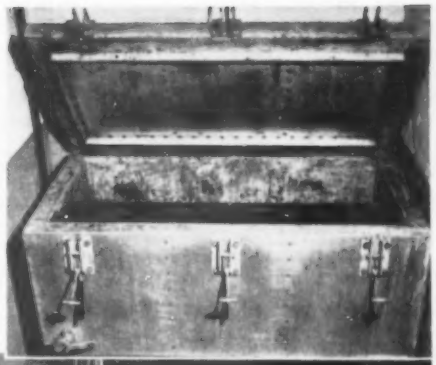
Fig. 3—Whirl Dry.

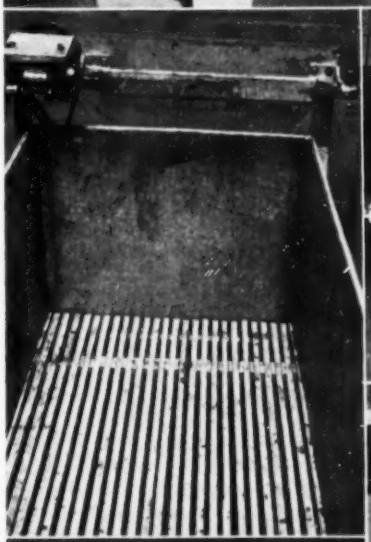
Fig. 4—Interior of electrically heated chest — showing water pails and cappings in place.

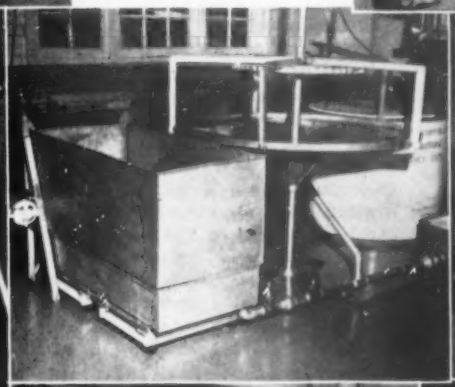
Below:

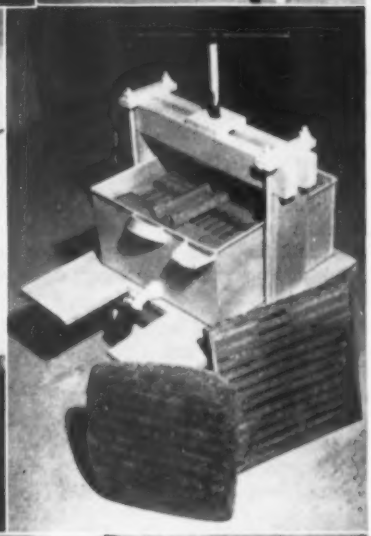
Fig. 2A—Drain box, turntable, extractor and sump (in O. A. C. honey house).

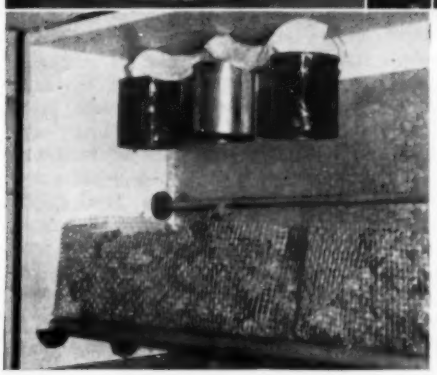
Fig. 4B—Cans of honey in electrically heated chest.











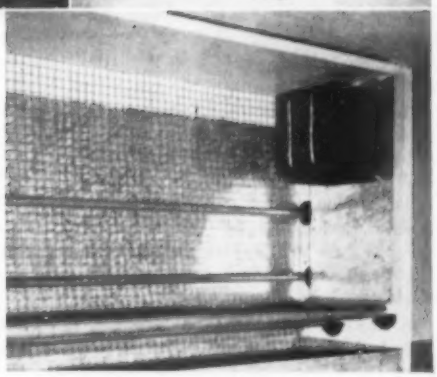
Right panel:

Fig. 5—Steam Chest.

Fig. 6—Peterson Melter.

Fig. 7—Wax Press.

Fig. 4A—Interior of electrically heated chest, showing heater fan. (Same chest used for melting honey.)



melted wax will be separated by a layer of unmelted cappings. To maintain this buffer layer of unmelted cappings it is necessary to keep the honey level low and to avoid excess heat on the bottom of the tank. The steam flow to the jacketed part of the melting tank should therefore be reduced or disconnected once the wax begins to run.

If properly operated, the Brand melter is perhaps the best method of handling cappings. Labor is reduced, and it is certainly convenient to have the honey drain off from one spout and the wax from another, the honey and the wax thus being completely separated at the end of each day's work. The capacity of the Brand melter is somewhat limited, however, and it is unwise to try to increase its capacity by using additional heat, because of the danger of damaging the honey. A large operator may therefore find it necessary to install more than one unit. Carefully operated, the Brand melter is very satisfactory; carelessly operated, it can result in considerable damage to the honey crop.

### Two-Step Handling

If it is decided that the Brand melter is not suitable because of insufficient supervision, the expense involved, or the lack of sufficient steam, then it will be necessary to uncap into a drain box, a press, or a whirl-dry. Any one of these systems will safely remove the bulk of the honey, but one is still faced with the problem of removing the remaining honey and melting down the cappings.

**Drain Box**—The drain box (Fig. 2) consists of a container with a screened or slatted wooden bottom on which the cappings drop and through which the bulk of the honey is drained off. If the cappings are stirred periodically and left to drain in a hot room overnight, this method is almost as efficient as the press or whirl-dry. After draining, the cappings must be shoveled or forked into some other container for further rendering.

**Cappings Press**—The press is a round bucket with slatted sides and bottom. The cappings drop directly into the bucket. When full, it is placed under a jack, which is tightened occasionally to squeeze the honey out of the cappings. The cappings are compressed into a cake, which eases handling.

**Whirl-Dry**—The combs are uncapped directly over the revolving basket of the whirl-dry (Fig. 3). The cappings are thrown against the wall of the basket, and the honey is forced through the perforated sides and drained off. The action is very similar to that of a honey extractor.

### Saving the Honey from Drained or Pressed Cappings

The honey trapped in the cappings may be saved for market or bee feed. As much as 50 per cent of the weight of the drained, pressed, or whirled cappings will consist of honey.

**Saving the Honey for Market**—The only satisfactory method of recovering this honey for market is by the use of a chest heated by other than live steam. Such a chest employing an electric blower-type heater is shown in Fig. 4. As the cappings are heated, the honey drips through the screen baskets and is drained from the chamber before it can be damaged by the heat. Some moisture must be provided in the heating chamber to keep the honey from drying out excessively during this treatment. After the bulk of the honey has escaped, the wax will melt sufficiently to run down to the lower tray, from which it can be scraped up and remelted.

This is rather a slow procedure and necessitates a second handling of the wax. It should only be resorted to where the market value of the honey involved makes it feasible.

**Saving the Honey for Bee Feed**—If it is planned to save the honey for bee feed, the cappings may be placed directly into a steam chest or Peterson melter and melted down.

**Steam Chest**—The steam chest (Fig. 5) is a container into which live steam may be released in continuous flow. The cappings are supported on screens, and the wax runs to the bottom of the tank along with the condensed steam. The liquid material coming out of the chest will consist of liquid wax and a honey solution. The wax will settle out on top of the honey solution and can be dipped and poured into molds, or permitted to cool later to be removed as a wax cake. The remaining liquid will be about 40 per cent sugar. It will be necessary to mix this with sugar or further honey for feeding purposes.

**Peterson Melter**—This melter (Fig. 6) consists of a pan with a hot water jacket underneath. The water may be heated by steam or electricity. The pan is placed on a slope so that the honey and wax as they melt run into a separator. The honey settles to the bottom and is taken off through a baffle. The wax remains on the top and eventually solidifies. The honey is damaged by the heat and can only be used for spring feed.

### Robbing the Cappings

Because of the possibility of spreading American foulbrood, it is not good policy to permit a whole yard of bees to participate in robbing the cappings. It is better to locate a few colonies of bees near the honey house especially for this purpose. Place the cappings on a coarse meshed screen above a platform. As the bees work over the cappings and remove the honey, the dry flakes of wax will fall through the screen and can be collected below. If this procedure is not followed, and the cappings are simply placed in a heap, the bees will be unable to completely remove the honey and many bees will be destroyed by fighting.

Colonies used for robbing cappings should all receive a feeding of sugar sirup containing sodium sulfathiazole as a preventive measure against American foulbrood.

### Discarding the Honey from Drained or Pressed Cappings

If it is decided that the honey remaining in the cappings is not wanted, then the cappings should be placed in very tight containers, such as wooden boxes or metal containers, and shipped **during the winter period** to a rendering plant, where they will be melted down and the wax removed. Cappings and old comb may not be shipped between March 31 and December 1, because of the danger of spreading disease. (Regulations under The Bees Act, Ontario.)

If it is desired to render these cappings at home, then they may be placed in burlap sacks and held under boiling water. It is necessary to squeeze the sack occasionally with a stick in order to make sure that most of the wax is removed. If much material remains, the sack should be placed in a wax press (Fig. 7). The wax press is so constructed that the sack of refuse is submerged in hot water while the jack is being tightened. Most of the remaining wax will be forced from the sack and will float to the surface, where it can be drained off or permitted to harden into a cake.

Additional wax can be salvaged if the refuse from the steam chest,

Peterson melter, or Brand melter is also placed in sacks and put through the wax press.

**Cautions**

1. Wax should never be heated over an open flame because of the fire hazard. This is particularly important inside a building.

2. Whenever honey is fed back to bees, sodium sulfathiazole should be added (see Circular 131, "Feeding of Bees" Can.).

3. Overheated honey is very hard on confined bees, and therefore it should only be used for spring feeding.

## Tennessee Adopts Bee Insurance Plan . . .

The Tennessee Beekeepers' Association is making available to its members a form of insurance which covers loss of colonies incurred from tornado, cyclone, windstorm or American foulbrood. In the case of AFB, the colonies must be destroyed in the presence of the State Apiarist or his duly authorized agent.

The cost of this insurance is 25 cents per colony and losses will be adjusted on a basis of not more than 20 cents for each full depth frame with foundation or drawn comb, with a maximum of $6 for each colony. The insured must notify an officer of the association immediately upon suffering a loss, and payments for losses are to be made in December of each year.

## Industry Representatives Testify at Washington . . .

Leslie H. Little, State Apiarist of Tennessee and a member of the Executive Committee of the American Beekeeping Federation, was in Washington, D. C. on May 25, 1953 to testify before the Interstate Commerce Commission against high express rates on shipments of package bees. Jas. I. Hambleton, Chief of the Division of Bee Culture and Biological Control, also appeared and testified in behalf of the beekeeping industry.

The outcome of this hearing still is unknown, but a good case was presented to show that any increase in express rates would affect the economy of the Nation because of the importance of honey-bee pollination in the production of more than fifty food and seed crops.

# Tri-State (Indiana, Michigan, and Ohio) Beekeepers' Conference Angola, Indiana, August 7 and 8, 1953

**Friday, August 7**

11:30 A.M.-4:30 P.M. — Pokagon State Park Shelter House; Earl Alexander, Pres. Indiana State Beekeepers' Assn., presiding.

11:30 A.M.-1:30 P.M.—Picnic lunch.

1:30-4:30 P.M.—Program and discussion.

1:30-1:35 P.M. — Attendance drawing and awards; Discussion of Indiana conditions, Earl Alexander; The Price Support Program, Representative from Production and Marketing Administration, Washington, D. C.; Tips on Rearing Good Queens, Leslie Little, Shelbyville, Tenn.; Problems of Commercial Pollination, Ted Gran, Perrysville, Ohio; Meet the Inspector, C. A. Reese, Columbus, Ohio, and Leslie Little, Shelbyville, Tenn., interrogators; Gilbert Perigo, Chief Apiary Inspector, State Entomologist's Office, Indiana; Don P. Barrett, State Apiarist, Dept. of Agri., Lansing, Mich.; S. E. Bailey, Specialist in Charge of Apiculture, Dept. of Agri., Columbus, Ohio.

7:30-9:30 P.M. — Auditorium, Tri-State College, Angola, E. C. Martin, Assistant Professor of Entomology, Michigan State College, presiding.

7:30-7:35 P.M.—Attendance drawing and awards; Group singing, led by M. J. Deyell, Editor, Gleanings in Bee Culture, Medina, Ohio; Address of Welcome, Dr. Woods, President, Tri-State College; Response, B. Elwood Montgomery, Assoc. Prof. of Ent., Purdue Univ.; Two Thousand Years of English Beekeeping, Dr. Eva Crane, Editor, Bee World, Hull, England; Panorama of the South and West—Kodachromes, Chas. A. Reese, Extension Apiarist, Ohio State University; Pollination of Alfalfa, colored movie furnished by Hercules Powder Co., and shown by Purdue representatives.

**Saturday, August 8**

9:00 A.M.-11:30 A.M.—Auditorium, Tri-State College, Howard Schmidt, Pres. Michigan State Beekeepers' Assn., presiding; Discussion of Michigan conditions, Howard Schmidt; Attendance drawing and awards; Problems of Commercial Beekeeping, Oscar Schmidt, Bay City, Mich.; Advice to Beginners, M. J. Deyell, Medina, Ohio; Choosing Honey Queen for Michigan State Fair; Insecticide Panel: Kill the Bugs and Spare the Bees; Agriculture in Chemical Age, Ray Hutson, Michigan State College; Control of Legume Insects, C. R. Weaver, Ohio Agri. Exp. Sta.; Protecting our Pollinators, R. T. Everly, Purdue Univ.

11:35 A.M.-12:15 P.M.—State Beekeepers' Association meetings.

12:15-1:30 P.M. — Lunch in cafeteria, Tri-State College.

1:30-4:30 P.M. — Auditorium, Tri-State College, H. R. Swisher, Pres. Ohio Beekeepers' Assn., presiding; Discussion of Ohio conditions, H. R. Swisher; Attendance drawing and awards; Native Bees in Pollinating Picture, B. Elwood Montgomery, Purdue Univ.; Introduction of visitors; A Tour of Beekeeping in Modern Europe, Dr. Eva Crane, Hull, England; Crowning of Honey Queen; Awarding of the Grand Prize.

## Itinerary of Dr. Eva Crane . . .

As announced in the program of the Tri-State meet at Hamilton, on page 299, Dr. Eva Crane, Director of the Bee Research Association in London, and Editor of the Bee World, will tour in this country and Canada. Her itinerary (sent to us by R. B. Willson of New York) is about as follows:

Arrive New York, July 23; Tri-State Meeting, Hamilton, Ill., Aug. 1-2; University of Wisconsin, Madison, Aug. 3-4; tour of Michigan, Aug. 5-6; Tri-State Meeting (Ohio-Michigan-Indiana) Angola, Ind., Aug. 7-8; Medina, Ohio, Aug. 9-10; Canadian Tour, Aug. 11-14; New York State Meeting, Rochester, Aug. 15; Cornell University, Ithaca, N. Y., Aug. 16-18; University of Mass., Amherst, Aug. 21-22; Bee Culture, U.S.D.A., Beltsville, Md., Aug. 25-28; New Jersey State Meeting, Aug. 29.

## Some Seeds Lower . . .

Seed potatoes are lower in price this year. This only indirectly affects beekeepers. But lespedeza seed shows a decline of 13% from last year, which may be an inducement for planting more of it for soil building if not for seed production.

Alfalfa and all the clovers show similar declines from a month ago as well as a year ago.

# Editorial

## We Like Colorado's Attitude

A recent issue of Colorado's B Notes contained the following editorial. The American Bee Journal concurs in the thoughts expressed therein and is glad to take this opportunity to bring it to the attention of many more beekeepers throughout the industry.

"Colorado beekeepers, as well as many others throughout the country, will greatly miss Glenn Jones. Glenn was secretary of the American Beekeeping Federation from its inception. He helped it grow from nothing into an organization which had more national influence and did more direct good to every beekeeper than any other beekeeping organization in American history. His resignation as secretary was accepted in March, 1953.

"Glenn gave unselfishly of him time, energy and talent for a better beekeeping future. He was particularly effective in educating the general public on the value of the honeybee as a pollinator. Beekeepers throughout the United States owe Glenn a vote of thanks for the fine and hard work he did on behalf of the industry.

"The important thing is for the Federation to move ahead. A good organization must be able to survive and grow despite changes in key personnel. Let's make the base built by Glenn a foundation on which to build a truly great Federation."

## Another Generation - - Another Meeting

As The American Bee Journal and Dadant and Sons plan for a big tri-state meeting at Hamilton, Illinois on August 1 and 2, it is of interest to recall for our readers the last large meeting of beekeepers held here.

Twenty-six years ago, on August 9, 10 and 11, 1927, some 300 people came to Hamilton from a wide area. This meeting was an outgrowth of the Wisconsin Beekeepers' Chautauqua which had been held for several years and to which had been invited beekeepers from other states in that area.

A large circus tent was erected in the city park to contain the meeting and people were housed in every available hotel and home in the community. Dr. Lloyd R. Watson was the great attraction demonstrating his technique for artificial insemination of queen bees. C. P. Dadant, then an active editor of the American Bee Journal, was both host and principal speaker, and Prof. W. E. Anderson of Louisiana told of the serious losses to beekeepers from the great flood of that year. All of these men have passed to their great reward since that time.

Among those mentioned at the meeting who still are living were Dr. V. G. Milum, Dr. O. W. Park, Huber Root, H. F. Wilson, Jas. I. Hambleton, and Jay Smith. Of course, the senior Dadants—Louis, Henry and Maurice were busily there, and also G. H. Cale, as they will be at the coming meeting. But the bulk of the planning and work now is being left to the younger generation—Bob and Charles, and a son-in-law, Roy, along with the help of G. H. Cale, Sr. and Jr., Carroll Swanson and others.

So it appears that as a new generation comes to the front, we again become hosts to another large meeting. This one comprises the states of Iowa, Missouri and Illinois, but many are expected from a much greater area.

We cordially invite you to come on August 1 and 2. Principal speakers will be here from England, Canada, and the U.S.A. Panel discussions of interest to both experienced and beginners are arranged. And a free feed and plenty of entertainment is planned for Saturday evening.

The younger generation joins the older one in hoping that this meeting in August will be as fine with as much fun and fellowship as that one held twenty-six years ago.

## We Need Better Distribution

Lately reports have come in to this office that some Montana beekeepers were still holding their honey with no apparent market for it, and this was reported in our Crop and Market page. This brought inquiry from an eastern packer, who packs a quarter to a half million pounds of honey a year, that he was short a car or two of such honey as he had formerly received from that very region.

Here is a problem of distribution. It would seem that as both the producer and the buyer were subscribers to our magazine the logical answer is to get the producer and the packer together through our advertising columns.

While this editorial is no "pitch" for increased advertising from this source, there might be at least a partial panacea in such instances as the one outlined above.

There is a more common difficulty or failing we believe in the cases where the small producer and packer finds his stocks being exhausted about this season of the year and decides to do exactly nothing about it but let his honey market go bare or risk it going to someone else until the new crop is available some six months hence. Such a producer is doing neither the consumer nor himself the service he might. Satisfied and expanding markets must be hooked in with continuing supply or else result in lack of interest and loss of customers.

# Good Queens - How to Procure Them

by John W. Holzberlein, Jr.

SECURING good queens is a problem that has no easy solution. There are three main sources for the queens that head our colonies and it is up to us honey producers as to what source or combination of sources we will employ. They are: (1) Those queens naturally raised by the bees, (2) Queens purchased from a commercial breeder, (3) Queens we raise for ourselves.

Queens raised by the bees fall into three classes, too, they are supersedure queens, emergency queens, and swarm queens. Supersedure queens are usually good queens if the parent stock is good. But we cannot depend on them because bees too often wait until the colony is far gone down hill before making any attempt to replace her majesty. In many cases an old queen or otherwise poor queen is lost entirely before a new queen is reared and instead of there being a natural supersedure the replacement is an emergency queen. However some true supersedure does occur, usually during the latter part of the honey season, and then provides a good queen for the coming year. At our first examination of the brood nest each spring we should look for young queens. It is then that one's ability to judge queens is valuable. If the old queen's record was good and we find a young one who looks like a worthy successor we should leave her. But if she seems inferior we take it for granted that she was raised in an emergency cell, and should make immediate plans to replace her.

Emergency queens are apt to be inferior because they are raised in cells originally intended to produce workers. The older the larva at the time she is selected to become a queen the poorer the resultant queen will be. And since the queen from the oldest larva will emerge first and destroy her sisters, often the poorest queen heads the colony. This is natural selection in reverse.

The swarm queen is reared under ideal conditions of plenty. If Nature does not meet too much opposition from the beekeeper the result is a good queen in the parent colony. But swarming is what we do not want, we fight it, we destroy the prime cells, and more often we do not get the best queens as a result. We do not want to perpetuate a swarming strain of bees, anyhow.

Therefore most of the queens that head commercial colonies are reared by artificial methods and we will take up the second group, those we buy. It is too often believed that commercial queen breeders concentrate on volume ahead of quality. While this is doubtless true in some cases, I do not believe it the rule and if one is persistent enough, I believe he can find a good commercial source of queens. There are many queen breeders who at certain times have excellent queens to offer. The way to find a man to supply your needs is to first decide what type of bee best fits those needs, and then try those breeders whom you expect to have most nearly what you want. Try several at once, say 10 queens from each, and compare the net results from each breeder. Try the better ones again. When you find what you want let him know it. Let him know you appreciate the service as well as the quality of the queens. After all raising good queens is only about half of a successful queen business. The service, that is getting them out on time and in good shape, is the other half and often the more difficult one. Don't expect miracles; allow for some failures. When misfortune comes into your relationship let him know about that, too. If the fault is his and he is the kind of man you will want to continue to do business with he will do his best to make amends. But if he has the kind of stock you want and his service has been good in the past you should be willing to share the loss in some measure for every queen shipment that is lost or goes bad or for some reason represents a loss to the shipper also.

I mentioned queen breeders having excellent queens at "certain times." Most of us want queens when it is difficult to rear good queens consistently. We want them early for packages, for splits, and for early requeening. Too often bad weather and consequent poor matings occur in early season. Nosema, where it occurs, is more prevalent then, too. The traffic in queens is a hazardous business at best. This leaves the third class of queens, those we raise ourselves. This would seem an ideal way for honey producers to get their queens for it is true that it has some decided advantages. But there are disadvantages also. One is the lack of time. The other is the fact that most of us are not geographically situated so as to be able to rear those early queens we all want. The time consumed in producing a laying queen is about four weeks if we are going to give her time to prove her worth. Since we cannot raise all we need from one graft one can readily see that some time is to be consumed. A few queens can be reared without taking all of one's time, but a commercial producer is short on time anyhow in the spring and needs considerably more than a few. Many of us who are willing to spend the necessary time, and can get away are either going south or to the west coast to "beat the season" and raise at least a part of our own queens. This method has two real advantages. It not only gives one the chance to use the best rearing methods known, but gives him the chance to evaluate the young queens while still in the mating nucleus and cull out the poor ones. If the queen is allowed to develop sealed brood she can be pretty accurately judged. The other advantage is that she can often be used without caging her or putting her through the mails. I sincerely believe that many good queens are ruined each year by our methods of transporting them.

But if there were no advantage to raising one's own queens I'd still recommend a certain amount of it for every honey producer. Though one fails to raise better queens he will surely encounter some of the many problems that confront the commercial queen breeder each year and thus be better able to understand him and to deal with him.

Colorado

# Beekeeping in Costa Rica

by Dr. E. J. Dyce

COSTA Rica, a Central American republic about the size of West Virginia, lies between Panama and Nicaragua. It has an area of about 20,000 square miles and a population of more than 800,000 people. A mountain range with peaks attaining elevations of 13,000 feet runs lengthwise through the center of the country from Panama to Nicaragua. This produces a diversity of climate and soil in what would otherwise be a tropical country. On the Pacific side of the mountains there is a rather well-defined dry season lasting from December to May and a wet season from June to November. On the Atlantic side of the mountains there is considerable rain during most of the year and the seasons are not so well defined.

During a recent sabbatical leave it was my privilege to work four months in Costa Rica with the Institute of Inter-American Affairs, a branch of the Point Four Program, and the Ministry of Agriculture and Industries of Costa Rica on phases of beekeeping.

About 200 beekeepers in Costa Rica operate a total of 10,000 colonies. Several beekeepers manage 100 to 500 colonies and one operates 1000 colonies. Eighty-five per cent of the colonies are housed in standard 10-frame Langstroth equipment, most of which is manufactured by local carpenters. Eighty per cent of the colonies are located at elevations below 600 feet in the northwestern half of the country on the Pacific side of the mountains. Most of the remaining colonies are located at higher elevations along the Pacific slopes. Few colonies are found above 4000 feet elevation or on the Atlantic side of the mountains.

Honey occupies eighth place in the total value of Costa Rican exports. For many years the surplus honey has been shipped to Europe and the United States. Eighty pounds per colony is the average annual production, but some commercial beekeepers have been averaging 100 to 200 pounds. Most of the honey is gathered from various species of forest trees growing at low elevations. The flavor and body of the honey is pleasant and highly acceptable on both the domestic and export markets. About 25% of the honey grades white in color, 50% light amber and 25% dark amber.

The inhabitants of Costa Rica are predominantly of Spanish descent, and are thrifty, independent, and very courteous. A number of large towns and villages including San Jose, the capital of Costa Rica, are located on a rather broad central plateau ranging in elevation from 2000 to 4000 feet. This plateau occupies less than 9% of the total area of Costa Rica yet it contains more than 60% of the total population. The climate of this area is ideal for many crops. Thousands of acres of coffee, sugar cane, and tobacco are grown here.

Coffee is Costa Rica's most important agricultural crop and the quality is so high that it brings top prices on the export market. About 115,000 acres of coffee are grown, mainly on the plateau surrounding San Jose. Many coffee growers are interested in having experiments conducted to learn if honey bees are effective in increasing their crops. Two commercial coffee growers stated that coffee trees on the edge of their plantations close to a few colonies of bees appeared to produce larger crops than trees located at a greater distance from the bees.

Coffee has been listed among the trees which are normally considered to be self-fruitful. Pollination experiments during recent years have shown that the set of fruit on certain self-fruitful trees is definitely improved when honey bees visit the blossoms in large numbers. In the United States, the sour cherry tree is an example of this condition. In New York state, as well as in Michigan, hundreds of colonies of bees have been rented annually during recent years for pollinating sour or pie-cherry trees and the practice is on the increase. The fruit growers find that honey bees definitely increase both the size and quality of their crops. Since there was so much interest in the pollination of coffee, a cooperative project was set up between the Institute of Inter-American Affairs and the Ministry of Agriculture and Industries of Costa Rica to investigate the problem. Should honey bees prove to be of value the number of colonies in Costa Rica would have to be greatly increased to accomplish the task.

Hundreds of colonies of bees were examined for both adult and brood diseases in all the major beekeeping areas of Costa Rica. No trace of any major bee disease was found nor has any ever been found. Realizing the danger of bee diseases, Mr. Orlando Munoz, the apiculturist for Cosa Rica, was largely responsible for having an embargo placed on the importation of used equipment, bees, and queens in 1945. Fortunately the prevailing stock appears to be of good productivity.

Costa Rica like most temperate and tropical countries has a rather heavy infestation of both the greater and lesser wax moth. The former does the most damage. Few beekeepers have more than two supers for each colony and by keeping the supers on the colonies the year round, the damage caused by wax moth is therefore kept at a minimum.

Practically all the colonies are supported on stands about two feet from the ground. This practice prevents large toads from consuming the bees as they fly to and from the entrances.

At one time ants and termites caused considerable damage to the bees as well as the hives. New chemicals such as chlordane and DDT applied below and around the colonies are now effective in completely controlling these pests.

Since foundation is rather expensive, too many beekeepers use strips of foundation attached to the top bars of their frames instead of using full sheets of foundation. This practice results in the production of too many drones and is a definite factor in reducing the size of the crops. On the other hand, most of the bee-

keepers are very conscious of the importance of leaving ample honey on the hives to ensure colonies reaching maximum strength at the beginning of the main honeyflow. In fact, the most successful beekeepers follow the plan of feeding their bees cane sugar which is called "dulce" for a period of from six to eight weeks prior to the main honeyflow. This practice of stimulating their bees to reach maximum strength at the correct time is the chief reason for high yields being secured in some apiaries.

At the present time it is customary for beekeepers in Costa Rica to operate as many as 300 colonies in a single apiary. A honey house is erected in each apiary and equipped with a small extracting outfit. The combs are uncapped with a sharp knife and usually extracted in a two- or four-frame hand operated extractor which is often homemade. The cappings are usually drained in a large box with a screened bottom. Some beekeepers have cut 55 gallon drums in half lengthwise and uncap into a screened box which rests on the open side of the drum. The honey is removed from the drum through one of the screw cap openings. Some of the honey is strained but prolonged settling is the chief method of clarification. Since high temperatures prevail in the major honey producing areas this method gives fairly satisfactory results.

There is room for considerable improvement in honey house equipment and management in many apiaries but most of the desirable improvements will have to be delayed until the roads are improved. At the present time it would not be practical to transport supers of honey over most of the roads to a central extracting plant. However, large sums of money and modern equipment are now being used to improve the roads. In two or three years the Pan-American Highway is expected to be completed through Costa Rica from Nicaragua to Pan-

(Please turn to next page)

**From top down:**

**Typical apiary in Costa Rica with about 300 colonies.**

**Colonies artificially shaded. This apiary has averaged over 200 pounds per colony during the past five years.**

**One of Orlando Munoz' apiaries in Costa Rica.**

**Cappings brought to main honey house by ox-cart in Costa Rica.**

**Typical roads between apiaries in Costa Rica.**

ama and it should not be too long before many all-weather secondary roads are constructed or at least improved.

One of the greatest needs in Costa Rica is a small honey packing plant provided with modern equipment to prepare honey for both the domestic and export markets. One phase of the marketing problem is the difficulty in securing both bulk and retail containers. It has been a long established custom for Costa Rican beekeepers to pack and export their honey in used 55 gallon steel drums. These drums are thoroughly cleaned with gasoline, dried over an open fire and coated on the inside with beeswax. They make a satisfactory export container but they have become scarce and expensive. Until recent years most of the gasoline used in Costa Rica was imported in drums. Now almost all of the gasoline is delivered in large tankers. The gasoline carried by these boats is pumped into large storage tanks at Puntarenas and other ports and transported by tank trucks to the filling stations. This new development has caused the shortage of steel drums.

Costa Rica is rich in timber for manufacturing wooden barrels. Methods were studied for securing enough equipment to manufacture barrels for honey as well as rum which is exported in large quantities from Costa Rica. Glass and paper containers are also scarce and relatively expensive as most of them are imported.

The honey which is exported from Costa Rica is officially graded by Orlando Munoz. Drums of honey which contain even a slight excess of beeswax or are not thoroughly coated on the inside with beeswax are rejected. Mr. Munoz impressed me as being most thorough and conscientious in his grading work.

I was so impressed with Orlando Munoz' ability and interest in beekeeping that arrangements were made for him to spend four months last summer in this country studying various phases of apiculture. Those of you who had the pleasure of meeting him will agree with me when I say that he was a most interesting, appreciative, and enthusiastic visitor. Working with him in Costa Rica and in this country was a genuine pleasure.

Costa Rica has an active beekeeping association (Associacion Apicola de Costa Rica) with a membership of about 100 beekeepers. Like other associations, its purpose is to bring to the beekeepers the latest information on beekeeping and provide an opportunity for a free exchange of ideas. Meetings are held at frequent intervals throughout the year. Mr. Munoz has been very active in fostering the activities of this organization.

In 1924, a National School of Apiculture (Escuela Nacional de Apicultura) was established by the Ministry of Agriculture and Industries of Costa Rica. Each year from September to May about 30 students are given two hours of instruction and four hours of practical training each week. To graduate, each student must prepare a thesis on some phase of beekeeping and complete an additional 200 hours of training in a commercial apiary. The course is conducted by Mr. Munoz who was largely responsible for starting it. I talked and worked with several of his students and found them to be well informed on most phases of beekeeping.

During the past five years Mr. Munoz has been conducting experiments in the manufacture of honey wines. This work was started in an effort to find a new outlet for honey which was difficult to market. He has acquired an excellent practical and scientific knowledge of the subject and last year he manufactured and sold over 2000 bottles in Costa Rica at a substantial profit. He imports his bottles and uses very attractive labels. He is planning to increase his activities in this field.

Many people have asked me how I liked working in Costa Rica. At low elevations the temperature usually ranges between 77 and 100 degrees F. but one soon becomes accustomed to the heat. On the Central Plateau the temperature ranges between 59 and 77 degrees F. which is about ideal for most Northerners. Beautiful flowers including orchids grow almost everywhere. The people take great pride in their flower and vegetable gardens and their homes. Many people who have lived in several of the Central and South American countries claim that San Jose and the area around it is one of the most pleasant places to live.

## Do You Have Skunks in Your Bee Yard? . . .

In some localities skunks are regarded as one of the most serious enemies of the beekeeper. Robert I. Brown, RD No. 2 Easton, Pa., has found that putting out poisoned bait is a way to rid the bee yard of the crafty skunk.

He cuts a piece of brood comb about three inches square and adds a small amount of strychnine. He never adds more than would fill a common garden pea. At night he places this chunk of baited comb under the entrance of the beehive. The skunks will remove the bait early in the morning, thus ridding you of the one that ate the poisoned bait. You will of course have to put out additional bait to kill other skunks. Mr. Brown has found that a rotten egg with one end removed and strychnine added is also an effective bait.

One must be careful not to have the poison bait accessible to any cat or dog, for it will kill them just as easily as it does the unwanted skunk. It is sufficient to keep animals locked up at night when the bait is placed under hives and to release them after you have collected all the bait that was not eaten by a skunk.

Robert I. Brown
State College, Pennsylvania

## Alfalfa Weevil in Utah . . .

The fight against alfalfa weevil received a shot in the arm when Utah State Agricultural College, in co-operation with the U. S. Legume Seed Research Laboratory, released a 16mm film showing weevil control. Another new film illustrates the importance of bees in the pollination of Utah's alfalfa, made available for farmers and farm organizations.

The two films were produced in Utah with the co-operation and direction of Dr. George Bohart and Prof. Frank Leiberman, federal collaborators with the Utah Agricultural Experiment Station. Don Macon, president of the Texas Industrial Film Corp., produced the films with the financial assistance of the Hercules Powder Co.

L. Perrins, Utah

Dr. Eva Crane, Bee Research Association, London, England

**Saturday, August 1**

Registration and reservations; A trip through the Dadant plant, a visit to the old home of C. P. Dadant; a visit to historic Nauvoo, early Mormon settlement and home of the Icarians.

**Afternoon**

Addresses—Dr. Eva Crane, Bee Research Association, London, England; Dr. C. A. Jamieson, Apiculture Div., Dept. of Agric., Ottawa, Can. Simultaneous Panels—

For the commercial beekeeper—Pollination, a Business or a Sideline—Moderator, Dr. Ralph Parker, Manhattan, Kansas; Honey Production and Marketing—Moderator, Roy A. Grout.

For the small beekeeper—Bee Diseases and their Control—Moderator, Dr. Floyd Paddock, Ames, Iowa; Bottling and Selling Extracted Honey—Moderator, Arthur Kehl, Watertown, Wisconsin.

Saturday Evening—Picnic; entertainment.

Sunday A.M. — Continuation of tours.

**Afternoon**

Addresses—Dr. Eva Crane; J. I. Hambleton, Bee Culture, U.S.D.A. Simultaneous Panels—

For the commercial beekeeper—Honey House Layout and Equipment—Moderator, Dr. V. G. Milum, University of Illinois; Queen Bees of the Future—Moderator, G. H. Cale, Jr.

For the small beekeeper—Package Bees, Queens, and Queen Introduction—Moderator, Dr. Mykola Haydak, University of Minnesota; Production of Section and Chunk Honey—Moderator, Newman Lyle, Sheldon, Iowa.

# Illinois, Iowa, Missouri—Tri-State Meeting
## Hamilton, Illinois — August 1-2

Details of the Tri-State Meeting of Illinois, Iowa, and Missouri Beekeepers are about completed. Dadant and Sons, Inc., and the American Bee Journal will be hosts at Hamilton, Illinois, on Saturday and Sunday, August 1 and 2.

Many beekeepers have already written for room reservations, and while there will be accommodations for all, it would be wise to write Dadant and Sons at the earliest date so your rooms can be booked and held for you at the reservation and registration desk. Different programs are to be presented each day, an added feature for those planning to attend both sessions.

Headlining the meeting will be three important personages in the field of beekeeping. Dr. Eva Crane, of the Bee Research Association, London, England, will present two addresses, one each day. Saturday she will discuss "2,000 Years of English Beekeeping," and on Sunday, "A Worldwide Report on Beekeeping and Bee Research." Dr. Crane is also editor of the Bee World Magazine, and very competent to discuss these two subjects of interest to all beekeepers.

Mr. James I. Hambleton, in charge of the USDA Division of Bee Culture and Biological Control, has accepted the other major speaking assignment for Sunday, and will discuss interesting phases of the work of his division. An accomplished speaker, Mr. Hambleton has his finger on most of the important research work in this country, and certainly every beekeeper will want to see and hear him.

Dr. C. A. Jamieson, Chief of the Apiculture Division of the Canadian Government, Ottawa, Canada, will make the other principal address on Saturday, discussing items of interest in his work. It is an excellent chance to hear of the progress of beekeeping in our sister republic to the north.

Panel discussions, some especially designed for the commercial beekeepers, and some for the hobbyists, will round out the programs each day. Leading authorities in the country will moderate the panels, and the members of each panel are likewise well-versed in their respective subjects. It's a chance to hear, ask, and learn.

Afternoon programs will be presented in the auditorium of the Hamilton High School, just a block from the city park. A noon lunchstand will be provided in the park where everyone may purchase sandwiches and refreshments as they desire. The meetings will convene at 1:00 P.M. Saturday evening, Dadant and Sons will present a picnic at Lakeview Club, just north of the city limits, along the Mississippi River.

Make your overnight reservations early, then be sure and register when you arrive. Early indications point to a big crowd, and an excellent program.

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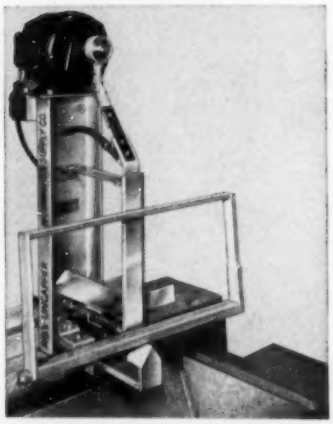

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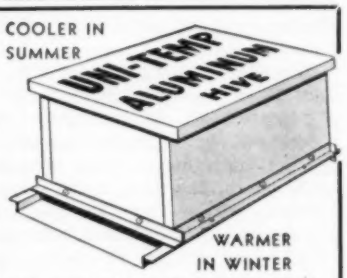


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Clarkson is a small town of about 400 and it has a third class post office, that is, the volume of business handled last year was less than $8,000.00.

When our busy season started in March (this was our first shipping season here) we flooded the Clarkson post office out because they did not have the facilities to handle our large volume of parcel post. The postmaster decided that our mailing facilities were far more commodious and convenient to use than those provided by the Government so we applied for a sub post office and secured it.

For years we have owned and used the latest style equipment in our office and shipping room because we must zone, weigh, and stamp our packages as must all big users of the mails. Now the postmaster comes to our plant and sorts and bags our packages and soon thereafter the mail truck backs into our loading dock and the day's shipments are on their way.

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# MEETINGS

**Southeastern Minn. Beekeepers**
**St. Charles, July 19**

The annual picnic of the southeastern Minnesota Beekeepers Association will be held at St. Charles, Minnesota on July 19th (tentative date).

Robert Banker,
President

**Minnesota-North Dakota**
**Detroit Lakes, July 24-25**

The summer meeting of the Minnesota and North Dakota Beekeepers Association will be held on July 24 and 25 at Detroit Lakes, Minn. A pot luck picnic lunch is scheduled for the 24th.

A honey scoring contest will be held and all beekeepers attending are asked to bring a sample of honey.

The possibility of setting up grades for honey in Minnesota will also be thoroughly discussed.

Robert Banker,
Secretary

**Los Angeles County Fair**
**Sept. 18 - Oct. 4**

Always a popular attraction in the huge palace of agriculture, the apiary division at Los Angeles County Fair in Pomona, Sept. 18 through Oct. 4, promises to be larger, more attractive and more interesting than ever, according to veteran superintendent, George Adamson.

Premium books containing detailed information are ready for distribution and can be had upon request at Los Angeles County Fair. They show 34 classes for competitive exhibits including feature exhibits entered by a producer or producers organization, many varieties of comb and extracted honey, unbleached beeswax, breads, rolls, cakes, pies and other articles sweetened with honey and candies made with honey. Cash prizes to fourth and fifth place will be awarded. There will also be sweepstakes awards.

Entries close Sept. 15. Judging will be on Sept. 18 and 19. Last fall 1,085,475 people attended the fair. This year, because of increased population and interest in the area, attendance is expected to be much larger. The grounds present a scene of intense activity as preparations are rapidly rounding into shape for the exposition.

**Tennessee Meetings**
**Lawrenceburg, August 12**
**Fountain City, August 21**

The Regional Middle Tennessee Beekeepers will meet in Lawrenceburg, Tennessee, August 12, 1953.

The East Tennessee Beekeepers will meet August 21, 1953 at 10 A. M. in the City Park, Fountain City, Tennessee. Picnic lunch will be served at the noon hour. Out of state speakers will be on the program at both meetings. All beekeepers are invited.

W. D. Reams, Sec'y

**Annual Picnic**
**Berks Co. Beekeepers Assoc.**
**August 1**

The Berks County Beekeepers Association will hold its annual picnic and summer meeting on Saturday, August 1 at 2 P. M. at the Ontelaunee Orchards, ¼ mile south of Leesport, Pa. on Route 122. E. J. Anderson and Wm. Clarke from Pennsylvania State College will be the speakers. There will be contests and refreshments, especially that good honey flavored ice cream. Come one, come all, and make it a grand success. The meeting will be held rain or shine.

Henry F. Phillips, Sec'y

**Westchester Co. Beekeepers Assoc.**
**Scarsdale, N. Y., July 19**

The Westchester County Beekeepers Association will hold its next meeting at 2:30 P. M., Sunday, July 19 at the home of Mr. and Mrs. E. Stangl, 24 Grand Blvd., Scarsdale, N. Y. Visitors are always welcome.

Carlton E. Slater, Publicity

**Beekeepers Short Course**
**Winchester, Virginia**
**July 9, 10, 11**

The 1953 Beekeepers Short Course will be held at the George Washington Hotel, Winchester, Virginia on Thursday, Friday and Saturday, July 9, 10 and 11. An excellent program is being developed with particular emphasis on the use of bees in pollination of fruit, especially apples. Speakers will include Prof. E. J. Anderson, Pennsylvania State College; Prof. George A. Abrams, University of Maryland; Prof. Edwin Gould, University of West Virginia Experimental Farm; and George H. Rea from Reynoldsville, Pa. There will be a special speaker on Saturday, July 11 to highlight the program.

H. L. Maxwell has offered the facilities of his modern honey processing plant at Berryville, Va. for use during practical phases of the program. On the second day of the short course, Mr. Maxwell and his associates will conduct groups on tours through this plant.

Beekeepers from the neighboring states of West Virginia, Maryland and Pennsylvania are invited as well as those from Virginia.

J. O. Rowell,
Extension Entomologist

**Tazewell Beekeepers Assoc.**
**Mackinaw, Ill., July 12**

Tazewell Beekeepers Association has held two outdoor meetings this season, the first on May 17 at the farm of Fred Bellatti in Mount Pulaski, Ill., and the second on June 14 at the home of Jos. Jachman in Peoria. Both meetings were well attended.

The next meeting will be held on July 12 at the country place of P. F. Bourscheidt in Mackinaw, Ill. There will be a basket dinner at one o'clock. This meeting promises to be one of the best of the season. Notices will be sent to members, but friends of Paul Bourscheidt and of the beekeeping profession are welcome to attend.

Jos. Jachman, Sec'y

**Northwestern Penn. Beekeepers**
**Canadohta Lake, July 29**

The Northwestern Pennsylvania Beekeepers will meet at Canadohta Lake, Pa. on July 29, 1953. A basket

lunch is planned at noon with games, prizes and speakers after the meal.

Ralph E. Spring, Pres.

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**Lake Region Beekeepers Assoc.**
**Morris, Minn., July 7**

The summer meeting of the Lake Region Beekeepers Assoc. will be held in Morris, Minn. in Agriculture Hall of the West Central School of Agriculture on July 7 at 8 P. M.

L. W. Sundberg, Sec'y

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**Wisconsin**
**Proposed Summer Program**

Summer district meetings to be held at Watertown Public Park Pavilion, Monday, July 20, and Eau Claire Lake Park Pavilion, Tuesday, July 21.

10:00 A. M.—Called to order by the President.

10:15 A. M.—Crop Prospect Report from beekeepers present.

10:45 A. M. to 11:45 A. M.—Honey House Sanitation by Philip Kremer, Supervisor of Food Inspectors, Wisconsin Department of Agriculture, Madison, Wisconsin.

11:45 A. M.—Business Meeting.

12:00 to 1:30—Lunch Hour—pot-luck lunch to be served (bring a dish for each member of your family).

1:30 P. M.—"Know Your Honey" by Prof. V. G. Milum, University of Illinois.

2:00 P. M.—"Honey Promotion in October" by a P.M.A. Official.

2:30 P. M.—Comments from visiting editors and manufacturers.

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**Middlesex County Beekeepers Assoc.**
**York Beach, Maine, July 11**

The Middlesex County Beekeepers Assoc. (Mass.) will hold a special meeting July 11 at the summer cottage of member Robert Cheney at York Beach, Maine. The Cheneys will be hosts to the State of Maine beekeepers and all others in the area are invited to attend and bring noon and evening meals with them. There will be fishing, swimming, games and inspection of Prof. Cheney's outapiaries. The supper will be supplemented with a big bowl of Boston Chowder.

The regular meeting of the association is scheduled to be held at the home of William Maxant at Harvard, Mass.

John H. Furber, Sec'y


**JENSEN Says,-**

Good queens are not produced by accident consistently, but are the result of well directed effort and persistence. Commercial Queen Rearing is a highly scientific and painstaking occupation and art. And few there are who really master it.

To produce thousands of High Quality Queens every month through the spring and summer seasons requires a lot of know-how and work.

The conscientious queen-breeder sells more than just queens. From him you expect and get service "beyond the call of duty." To quote a Rotary Motto, "Service Is Our Business." Either strain will do you a good job of storing honey, and will be a joy to work with.

"Magnolia State" Italian Queens

Dadant Improved Stock
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| 1-24 | $1.25 | 1-24 | $1.50 |
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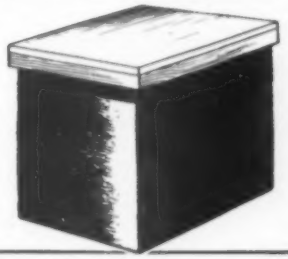
Bemis **Winter-Warm** Hive Covers!



Bemis WINTER-WARM HIVE COVERS fit snugly over hives and guard against killing wind and cold. Double-weight, weatherproof, waterproof, durable. Put on or remove in seconds . . . no nailing or tacking.

Economical . . . cost per hive about same as retail price of pound of honey. Three sizes: One Hive, Two Hives, Modified Dadant.

If your dealer doesn't have Bemis WINTER-WARM HIVE COVERS, write to

**On Sunny Days** . . . Users report that, while Bemis WINTER-WARM HIVE COVERS keep out cold winds, they admit and retain warmth on sunny Winter days so that the bees will take the exercise that keeps them in good health and activity.

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Foster Apiaries can make prompt shipment of
BLUE RIBBON ITALIAN PACKAGE BEES AND QUEENS

Competitive Prices

**HOWARD FOSTER**
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## BEES AND QUEENS

TWENTY YEARS OF SELECTION Jersey bred queens for larger crops. Available June 1st. $1.00 each. Milton H. Stricker, R. D., Annandale, N. J.

GOLDEN ITALIAN QUEENS at 55c each. Their bees are large, yellow and very gentle, good honey producers. We guarantee live arrival and health certificate. Allen I. Gauthier, Hamburg, La.

CAUCASIAN BEES and QUEENS—Extra good workers and gentle to work with. 2-lb. with queen, $3.00; 3-lb. with queen, $4.00. Select queens, 1 to 25, $1.00 each; 25 up, 90c. Black River Apiaries, Currie, N. C.

THREE-BANDED ITALIAN bees and queens—Best of quality, good workers and gentle. 2-lb. with queen, $3.00; 3-lb. with queen, $4.00; $1.00 for each additional pound of bees. Select queens, 1 to 25, $1.00; 25 up, 90c. Alamance Bee Company, Graham, N. C. Phone 4703.

CARNIOLAN and CAUCASIAN QUEENS—Gentlest of all bees. One, 75c; one hundred, $65.00. Tillery Brothers, Greenville, Ala.

GOLDEN ITALIAN bees and queens—Very yellow and gentle. 2-lb. with queen, $3.00; 3-lb. with queen, $4.00. Select queens, 1 to 25, $1.00 each; 25 up, 90c. Carolina Bee Farm, Graham, N. C.

YANCEY HUSTLERS—Three-band Italians. They get the honey. Queens balance of season, $1.00; $10.00 dozen. Caney Valley Apiaries, Bay City, Texas.

CAUCASIANS—Personally raised, large queens, good workers, $1.00 each any number rest of season. Fred Brock, McDonald, Tenn.

LIGHT 3-BAND Italian queens—One to 20, 90c; 20 and up, 85c. Luther Pickett, Owner Orange Bee Co., Efland, N. C.

NORTHLAND ITALIAN QUEENS—For production. $1.00 each; 10 up, 90c. Shirl Baker, Rodney, Michigan.

HONEYLINE QUEENS—Large beautiful Italians. $2 each. Stephens Apiaries, Wingate, Indiana.

YELLOW ITALIAN bees and queens. Real producers. Health certificate, satisfaction guaranteed. 3-lbs. with queen, $4.50. Queens, airmail postpaid, $1.00; 20 to 50, 90c; 50 to 100, 85c. O. E. Brown, Rt. 1, Asheboro, North Carolina.

## FOR SALE

FOR SALE—New electro-flo filling machines. Model SA100—$365.00. Model SA200—$285.00. F.o.b. Hancock Honey House, Hancock, Iowa.

STEEL FOOD DRUMS, 55 gallon, $2.85 each. For shipment or storage of honey. Alexander Company, 819 Reynolds Road, Toledo, Ohio.

FOR SALE—One row automatic Elgin bottling machine like new, $895.00. One World semi-automatic labeling machine, good condition, $250.00. Russell Smalley, Beaver, Iowa.

FOR SALE—Due to poor health will sell package and queen outfit, good early location, 750 10-fr. 2-story colonies, 650 double nuclei. Will sell colonies separate. Good location at Lucedale, Miss. Walter Orange and Son, Ruthton, Minn.

500 colonies Caucasian bees—3 story—$16. Good established income from queens, package bees, pollination service and extracted honey. Troy H. Nance, 3764 Jeffrey Ave., Sacramento, Calif.

FOR SALE — Root two-frame reversible extractor in good condition, $19.00. Fred Peterson, Alden, Iowa.

FOR SALE—50-frame Woodman extractor and Root uncapping machine. G. H. Rose, 3333 Wadsworth, Wheatridge, Colo.

Copy for this department must reach us not later than the tenth of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

Rate of Classified advertising—13 cents for each word, letter, figure or initial, including the name and address. Minimum ad, ten words.

As a measure of precaution to our readers we require reference of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on comb must guarantee them free from disease or certificate of inspection from authorized inspector. The conditions should be stated to insure that buyer is fully informed.

YOUNG PARAKEETS — $5.00 each. Old canaries $9.00 pair. Young mallard ducks $4.00 pair. Homer pigeons $2.00 a pair. Ira Jones, 724 Jewel, Danville, Ill.

FOR SALE—Hundreds of extra good, once used, 5-gal. honey cans. Wright Apiaries, Edgerton, Missouri.

POTDEVIN LABEL PASTER, $75.00. 16 sheet cellulo filter with bump pump, $895.00. National semi-automatic labeler, $545.00. 1 ton mixing tank with reduction gear box, $150.00. Flash heater, $70.00. Alexander Company, 819 Reynolds Rd., Toledo, Ohio.

FOR SALE—350 colonies bees. Good hives, regularly inspected. Well established field and orchard pollinizing business. Good honey locations. Write for full information. John Peterson, Garfield, Wash.

## HONEY and BEESWAX WANTED

**WRITE FOR SHIPPING TAGS and current quotations on rendered beeswax. Any amount from one pound up bought. If you have 25 pounds or more, save 25% by letting us work it into foundation for you. Walter T. Kelley Co., Clarkson, Kentucky.**

CASH PAID for white and amber extracted honey. Send samples and state quantity available. Prairie View Honey Co., 12303 Twelfth St., Detroit 6, Mich.

**HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 2613 South Yates Ave., Los Angeles 22, Calif.**

WANTED — Water white clover honey, truck or car lots; also light amber. Mail sample and lowest cash price. Write Stoller Honey Farms, Latty, Ohio.

**WANTED—Extra white and light amber honey. Let us ship you the containers. Sell us your honey for CASH on delivery. The Hubbard Apiaries, Manufacturers of Bee Supplies and Comb Foundation, Onsted, Michigan.**

BEESWAX AND HONEY WANTED in trade for supplies or cash. Hodgson Bee Supplies Ltd., 565—13th Ave., New Westminster, B. C., Canada.

**WANTED — Extracted honey, white or light amber, in 60's. State price in first letter. Ed. Heldt, 1004 W. Washington St., Bloomington, Illinois.**

WANTED—Cut-comb and strained. Send samples and price. Cole Honey Co., 4460 Piedmont Ave., Oakland, Calif.

**CARLOADS or less of honey and wax. Send sample and price. Alexander Co., 819 Reynolds, Toledo, Ohio.**

WANTED—White clover honey. Cash paid. Submit samples. Schultz Honey Farms, Ripon, Wisconsin.

## HONEY FOR SALE

ANY GRADE — any amount. Alexander Company, 819 Reynolds, Toledo, Ohio.

GOOD QUALITY comb and extracted honey for sale. Smith Apiaries, Clayville, New York.

CLOVER EXTRACTED HONEY in sixties. Ralph Gamber, 910 State, Lancaster, Pennsylvania.

POPLAR, DARK AMBER, in 60's and cut comb. Light amber, clover mix, cut comb. Wanted—100-200 gal. honey tank. Bruce Anderson, Chatham, Virginia.

## SUPPLIES

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**THE BIGGEST BEE SUPPLY CATALOGUE PUBLISHED (64 pages) free for the asking. Big factory manufacturing a complete line of wooden goods, comb foundation, metal goods, veils and gloves, carloads in stock, daily shipments, save 20%. WALTER T. KELLEY CO., CLARKSON, KENTUCKY.**

**THE ONLY COMB FOUNDATION PLANT in the East. We sell foundation, work your wax, render combs and cappings. Robinson's Wax Works, Rt. No. 3, Auburn, New York.**

**BEE SUPPLIES—Tin packages, 10 sizes glass jars, paper shipping supplies, window cartons and other items. Roscoe F. Wixson, Dundee, N. Y.**

**SOUTHERN CALIFORNIA HEADQUARTERS for Bee Supplies. Make our facilities your "Trading Post." Complete stocks. See our Bulletin Board for Budget Bargains. The Diamond Match Company, 1300 Produce St., Los Angeles 21, Calif.**

OVERSTOCKED on the finest quality beeway sections. Special quotations on lots of 10,000 and more, regular or split. Walter T. Kelley Co., Clarkson, Kentucky.

THE ROSEDALE UNCAPPING PLANE, with depth gauge, makes uncapping simple, fast. Especially designed to eliminate strain on wrist. Distributor—A. G. Woodman, Grand Rapids, Michigan.

TOPS and BOTTOMS assembled and painted, $1.00 each. E. Aiken, 11254 Linden, Lynwood, Calif.

## POSITIONS AND HELP WANTED

SOUTHERN BEEKEEPERS ATTENTION —If you want a northern location, come and help take off our crop of honey. We need help and want to dispose of our big spread and modern equipment. Will sacrifice because of old age and illness. Box 16, c/o American Bee Journal.

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HONEY PLANTS—Seeds - trees - plants. Illustrated catalogue on request. Pellett Gardens, Atlantic, Iowa.

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KNOW interesting facts concerning the bees of India through the INDIAN BEE JOURNAL, published in English, by the Bhupen Apiaries (Himalayas), Ramgarh, Dist. Nainital, U.P., India, and obtainable from them. Subs. Rs. 7/-or 10 Shillings or $2.25 per annum. Single copy Rs. ¼-a. 1/9 or 49 cents (international money order). Payment in mint postage stamps of your country accepted.

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RANCH MAGAZINE—Do you find it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information of range sheep than any magazine published. Subscription $1.00. Hotel Cactus, San Angelo, Texas.

SECTION COMB HONEY production procedure steps — 50c. Glossary of Beekeeping Terms — 50c. United Industries, Box 449, Madison 1, Wis.

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WANTED—Kelley's cappings melter and wax separator. Asa Buren, Cullom, Ill.

**CAUCASIANS, CARNIOLANS**

**Hardy, prolific, rapid build-up, best of workers. Caucasians have the longest tongue of any race. Both build beautiful white combs. BOTH ARE THE GENTLEST OF ALL RACES OF BEES. Gentleness is safest in towns, near neighbors or near streets or highways. Gentleness saves time, sweat, patience and work. Prices, both races: Untested queens $1.00 each. Tested queens $1.75 each. By Air Mail. Lower prices in quantity. Ask. A few Caucasian Breeding Queens.**

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**ITALIAN QUEENS — QUEENS**

**Nice large laying queens, 55c ea.**

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**QUEENS and PACKAGE BEES**

at the following prices:

| | Queens | Italians Packages w.q. 2-lb. | 3-lb. | 4-lb. | Starline Queens |
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| 1-9 | $1.00 | $3.25 | $4.25 | $5.25 | $1.25 |
| 10-99 | 1.00 | 3.00 | 4.00 | 5.00 | 1.25 |
| 100 up | 1.00 | 2.75 | 3.75 | 4.75 | 1.25 |

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Add 25c for packages with Dadant's Starline Hybrid queens.

**We guarantee safe arrival, health certificate and prompt service. Our queens are reared under my personal supervision, our aim is QUALITY NOT QUANTITY**

**LITTLE'S APIARIES Box 122 Shelbyville, Tennessee**

**YOUR BEST INSURANCE FOR A BETTER HONEY CROP**

**in 1954 is to requeen now with ladylike Caucasian queens. They get results for others, they will make a better crop for you if properly handled.**

**PROMPT SHIPMENT. CIRCULAR FREE.**

**Ladylike Caucasian queens: 1-11, $1.10 each. 12-24, $1.00 each. 25-50, $0.90. 50 or more, 75c each.**

**CAUCASIAN APIARIES Castleberry, Ala.**

**The best assurance of a good season next year, is to have your colonies with a young and thrifty queen, either our Italian, Florida Flora Queens or Dadant Starline, give you this assurance. Queens all summer until October 1.**

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| | Italians | Starline |
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| 1-24 | 85c | $1.35 |
| 25 & up | 75c | 1.25 |

**FLORIDA BEE AND HONEY COMPANY**

**2649 Raeford Road Orlando, Florida**

**QUEENS QUEENS QUEENS**

**"Italians"**

We offer you young laying queens, shipped prepaid Air Mail. Mark colonies with old and failing queens and replace when conditions are favorable. Queens available until November 1st. Clipped and painted at no extra cost.

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| 1-9 | 75c ea. |
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| Tested Queens | $1.50 ea. |

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**60-lb. Cans — Large Handles and 3½-in. Openings**

**All Sizes Honey Containers**

**PRAIRIE VIEW HONEY CO.**

**12303—12th Detroit 6, Mich.**

by M. G. Dadant

### Crop So Far

As a general rule we might say that the crop harvested so far has been reduced because of unfavorable weather. This applies to California and Florida as well as to other sections. The Florida crop, while fair, has not been up to last year. The California crop was reduced in the early stages on account of inclement weather, and Texas early crops were disappointing on account of early drought although some rain fell later followed by another period of drought.

Throughout the Southeast the crop might equal 1952 but no more. In the central belt, including Arkansas, the season was not as propitious as a year ago and New Mexico and Arizona, particularly, were short with the early crop.

In most other sections the early stimulative crops have been delayed but the bees have not been set back very much.

### Prospects

As we stated a month ago, if there are to be bumper crops, this year they will likely be in the central clover areas. California can scarcely make up loss of the early orange and other crops and in addition many more bees are being thrown into pollination this year. As a matter of fact, some sections do not expect any early honey and some orange surplus has been used to keep the bees alive until a later crop. Alfalfa looks like the only possibility, with perhaps a little brighening of the desert areas. In the extreme Northwest there has been too much rain but this should bode well for later on. These conditions extend directly east into the central western areas. Montana seems to be the only state which looks forward with high hopes although Idaho probably approaches last year. To the south, conditions do not look too good in the intermountain area.

In the northern plain states, conditions are good but taper off as we go south with drought conditions in southeast Colorado, western Oklahoma and extending into Texas and New Mexico. Even eastern Texas is doubtful now whether the Hubam will produce as well as expected a little earlier.

Prospects seem to be excellent in the central areas and extending into New York and New England. There are still possibilities of a sourwood flow in the Southeast. Florida apparently will not have as much honey as last year.

### Season's Totals

On this basis the season's total of honey apparently is not going to be up to the bumper crop of last year, largely due to the shrinking of the big areas like California, Florida and even Texas which was short a year ago. If there is to be an amelioration of this condition it will mean the prairie and central states will have to come through.

In the Canadian Provinces conditions do look satisfactory except in the extreme east, although Saskatchewan does not measure up to British Columbia and Manitoba.

### Honey On Hand

We have almost universal reports that the honey carried over from 1952 is negligible although some of the larger packers do have some left. We understand one of the largest packers in the South has completely cleaned up and some in the North have had to buy at the prices prevailing four months ago to get the honey they need. All in all, the carry-over is going to be quite short and with the short crop coming up it does look like the producer should stand himself in good stead before sacrificing any honey of the 1953 crop.

### Prices Offered

The only prices we learn offered on the new crop are in California on eucalyptus about nine cents a pound and some offers of white in Florida at from ten to twelve cents. On the whole, such offerings are based on the new government support which is about one cent under this time last year.

Even old crop honey now being removed from the market generally is going at a cent a pound less although the amount left on hand and the crop conditions would not warrant any reduction. The writer sees no reason why prices should be any lower in 1953 than they were in 1952. We should have considerably less honey to start off the fall season and naturally both the Production & Marketing Administration and the co-operative groups as well as the American Beekeeping Federation and individual beekeepers all are making much more of an effort than they did a year or two years ago to promote the sale of honey.

The support on export shipments, while one cent under what it was a year ago, still apparently is remunerative enough so that sales will go on without too great a reduction in volume.

All in all, it looks like a shorter crop than last year with the short 1952 areas probably being better this year except in the case of Texas, Arizona and New Mexico with high producing areas probably dropping down to a lower level.

**CANADIAN BEE JOURNAL**

**Canadian beekeepers have much in common with their neighbors in the U.S. If you are interested in bee activities "North of the Border," send us your subscription NOW. Subscription price, $1.75 per year in U. S. A.**

**Canadian Bee Journal**
**Streetsville, Ontario, Canada**

**Honey Wanted**— **Cars and less than car. Top Prices.**
**C. W. Aeppler Co., Oconomowoc, Wis.**

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The leading Rabbit Farming Magazine. Explains the growing meat rabbit industry. Non-fancy. Est. 1931. 3 years $2.00; 1 year $1.00; Sample dime.

**American Rabbit Journal**
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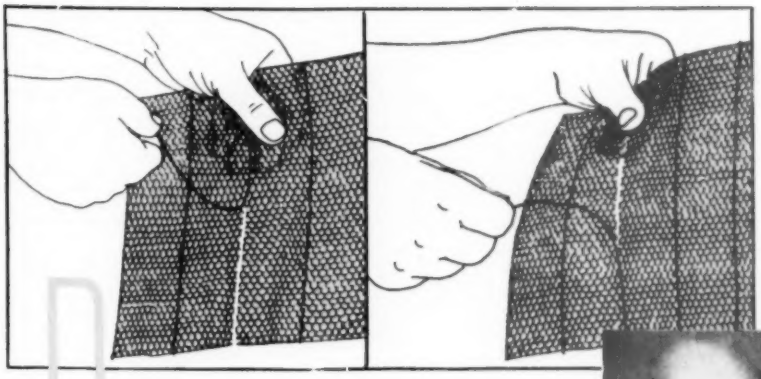

J. D. Beals
Harlingen, Texas

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## Accurate Embedding So Bees Use Every Inch

The Crimped Wires Are in a Flat Plane in the Very Center of Every Sheet.

Each crimp is mechanically perfect; each one embedded in the very center of the pure beeswax sheet.

When you pull out the wires you tear the sheet in two, whether you pull them to the left or the right. They tear out of the very center and split the sheet either way. Each wire is crimped in exactly the same way, embedded exactly to the same depth of wax. Bees can use every inch for comb or brood or honey.

The wires become an integral part of the foundation, specially shaped and formed for the exact needs of perfect combs.

Remember, the profits from your bees are influenced by the combs you use. Dadant's Crimp-wired Foundation gives you Lifetime Combs for years of heavy duty service.

The Choice Of Expert Beekeepers

- In heat or cold the hooks will hold
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- Accurate embedding so bees use every inch
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- Cell walls a guide to perfect comb
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- All cells just alike
- Every sheet the same
- Carefully and rigidly inspected
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Gives You LIFETIME COMBS

## CRIMP WIRES for STRENGTH

**Thirty-four years ago this spring you folks sent me a sample of your brood foundation into which you had embedded vertical crimp steel wires. The sample looked good to me and so I bought a hundred pounds. This was the first foundation that I had ever bought.**

**Since then, I have used many carloads of your Crimp-wired Foundation and have seen many hundreds of thousands of combs built from your Crimp-wired Foundation. I do not remember seeing one comb in which the comb had sagged. I have seen thousands of combs built from foundation in which other types of wires were embedded and in these combs there was considerable sagging.**

**I am no engineer so I cannot say why these combs would sag and the ones built from your crimp-wire would not. My belief is that the crimps just simply give more strength to the wax.**

**J. D. Beals**
**Harlingen, Texas**

1863 1953

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**75 YEARS of foundation making**

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Dealers Everywhere

**PURE BEESWAX**— Dadant's Foundations are made of pure beeswax, just as your bees make it. So wax from your combs is worth the highest market price and is safe for food use.

**First Dadant factory was at back of dwelling house way out in the country**

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# And Now a Good Carton Made Even Better

The Root Comb Honey Carton is made of snow-white sulphite board—a pure virgin pulp sheet that is white all the way through. The fact that it is odorless and tasteless makes it an ideal food container. You'll like its bright appearance!

## Label Time is Here

Our 16-page catalog is full of many designs, styles, and colors to fit your label needs. It is free for the asking.

**See Your Root Dealer Today**

## THE A. I. ROOT CO.

MEDINA, OHIO